



TESDA RTC-CALABARZON Chronicles

EMPOWERING LIVES THROUGH SKILLS, INNOVATION AND EXCELLENCE

VOLUME 15, NO. 1 | SERIES OF 2024

Pipefitting Trainees Rehabilitate Basketball Stand, Fabricate MRFs in Bauan

Pipefitting (Metallic) NC II trainees from RTC-CALABARZON put their skills to community use on May 27, 2024, repairing a basketball stand and fabricating six Materials Recovery Facilities (MRFs) in Zone 2B, Brgy. Alagao, Bauan, Batangas.

The project drew on core pipefitting competencies—pipe cutting, precise measurement, and tack welding—skills honed in the trainees' regular coursework and now applied to a real community need. The work gave trainees hands-on practice while leaving the barangay with usable public infrastructure and improved waste segregation facilities.

The activity reflects RTC-CALABARZON's effort to pair technical training with community service, reinforcing its mission to build a skilled, employable workforce while directly benefiting the localities it serves. Center officials noted that such projects help trainees see the practical value of their training beyond the classroom, strengthening both their proficiency and their sense of civic responsibility.

By engaging trainees in projects with visible community impact, RTC-CALABARZON continues to position itself as a partner in local development, not just a training provider—turning coursework into infrastructure that barangays can put to immediate use.



Pipefitting Metallic NC II learners repair the basketball stand in Brgy. Zone 2B, Alagao, Bauan.

RTC-CALABARZON Hosts Mass MOA Signing with Industry Partners

RTC-CALABARZON hosted a Mass Memorandum of Agreement (MOA) Signing Ceremony with its partnered industries on May 28, 2024, at the Center's conference room, marking another step in strengthening ties between technical education and industry.

Administrator Domingo I. Librea welcomed attendees and outlined the MOA's role in advancing TESDA's mission of quality technical education. TESDA Region IV-A Regional Director Baron Jose L. Lagran delivered the keynote, thanking the partner industries for their commitment and noting that their time and effort, on top of the signed agreements, reflect a deeper dedication to Philippine TVET. Lhenie T. Aquilo, Supervising TESD Specialist, represented TESDA Batangas Provincial Director Dorie U. Gutierrez at the event.

Industry representatives signed the agreements alongside Dir. Lagran and Mr. Librea, formalizing commitments expected to open up collaboration in curriculum development, training facilities, internships, and employment placement. In his closing remarks, Supervising TESD Specialist Jovert M. Cabaces thanked all participants and reaffirmed TESDA's commitment to the partnerships' success.

The ceremony closed with a group photo of officials and industry partners holding their signed agreements—a fitting image for what organizers described as the start of a new chapter of cooperation between RTC-CALABARZON and its industry network.



RD Baron Jose L. Lagran and Administrator Domingo I. Librea thank the partner industries for their continued trust and commitment.



The official signing of the MOA in the presence of Dir. Lagran and Mr. Librea.



Industry partners pose with their signed agreements, marking their official partnership with RTC-CALABARZON and TESDA.

RTC-CALABARZON Hosts 30th TESDA Anniversary Kick-Off Ceremony

RTC-CALABARZON served as event host for the 30th TESDA Anniversary Kick-Off Ceremony of TESDA Batangas on August 12, 2024, held at the Center's multi-purpose hall under the theme "Continuing Legacy of Empowering Filipinos, Elevating Global Competence."

TESDA RTC-CALABARZON

Chronicles

EMPOWERING LIVES THROUGH SKILLS, INNOVATION AND EXCELLENCE

VOLUME 15, NO. 1 | SERIES OF 2024

The day began with a motorcade featuring all TESDA Technology Institutions, RTC-CALABARZON, PTC-Lipa, and Technical Vocational Institutions across Batangas, parading through Batangas City with banners and flags before converging on the RTC grounds. A Holy Mass followed inside the multi-purpose hall, offering a solemn start to the day's proceedings and a moment of thanksgiving for three decades of TESDA service.

As host, RTC-CALABARZON coordinated every detail, from motorcade logistics to the hall's anniversary-themed decor. Provincial Director Dorie U. Gutierrez formally opened the celebration alongside the participating TTIs, TVIs, and PTVEA, while welcome remarks came from Mr. Librea, PTC Lipa Administrator Analyn Panopio, and PTVEA Batangas President Dr. Imelda M. delos Reyes.

The successful hosting underscored RTC-CALABARZON's role as a leader in the region's technical education landscape, setting the tone for a month-long celebration of TESDA's legacy and its vision for the future.



The multi-purpose hall, adorned for the occasion, served as a reminder of TESDA's enduring legacy.



Guests gather inside the decorated multi-purpose hall for the kick-off program.



PD Dorie U. Gutierrez officially opens the 30th TESDA Anniversary Celebration with the TTIs, TVIs, and PTVEA.



PD Gutierrez thanks the participating TTIs and TVIs for joining the kick-off ceremony.



RTC-CALABARZON, PTC Lipa, and TESDA Batangas join forces for the anniversary kick-off.



The motorcade of participating TTIs and TVIs winds through Batangas City, banners and flags held high.

2024 Coastal Clean-Up Drive: Preserving Our Shorelines

RTC-CALABARZON renewed its commitment to marine conservation on September 27, 2024, joining the 39th International Coastal Clean-Up Drive at Brgy. Anilao East, Mabini, Batangas—a site prized for its rich marine biodiversity.

The clean-up began at dawn with RTC employees, trainers, GMAW NC II trainees, Diploma Program trainees, and on-the-job trainees combing the shoreline for plastics, bottles, discarded fishing nets, and other debris. Working in designated sections, volunteers ensured even the shoreline's remotest stretches were cleared, with collected waste properly segregated on site.

Every piece of debris was logged using the Ocean Trash Data Form provided by the Ocean Conservancy—identified, classified, counted, and weighed before the consolidated data was submitted to the organization's global marine-pollution database. Beyond the clean-up itself, the activity gave trainees a meaningful, hands-on lesson in environmental responsibility.

In recognition of the Center's contribution, the Sangguniang Barangay Council of Anilao East awarded RTC-CALABARZON a Certificate of Appreciation. The initiative reaffirmed the Center's broader advocacy for sustainability, community involvement, and responsible stewardship of natural resources—commitments it intends to carry into future clean-up efforts.



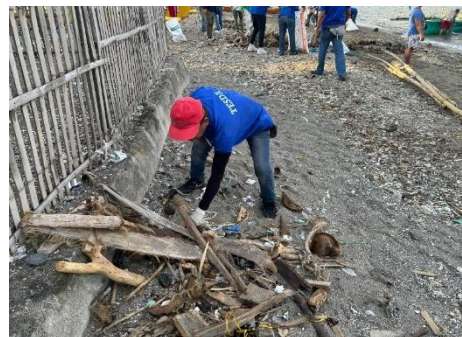
The RTC-CALABARZON team, employees, trainers, and on-the-job trainees gather in full force to begin the 2024 Coastal Clean-Up Drive.



The shoreline of Brgy. Anilao East, Mabini, before the clean-up drive.



The same coastal stretch after the RTC-CALABARZON team's clean-up.



RTC-CALABARZON Backs CALABARZON Bets at the 2024 Philippine National Skills Competition

Employees of RTC-CALABARZON turned out in force to support the region's competitors at the 2024 Philippine National Skills Competition (PNSC), held at the World Trade Center, Pasay City from August 21 to 25, 2024.

The team attended the August 21 opening ceremony to cheer on CALABARZON's competitors and experts as they prepared to showcase the country's best technical-vocational talent. The gathering also gave RTC-CALABARZON staff a chance to network with other regional contingents and industry experts.

On August 22, RTC-CALABARZON trainers used the competition proper as a benchmarking opportunity, observing the processes, tools, and techniques used across qualifications ranging from advanced manufacturing to creative industries. The close look at state-of-the-art equipment and competitor performance offered insights the trainers plan to apply to their own training programs.

The team returned on August 25 for the capping-off ceremony, where their support paid off: CALABARZON competitors brought home nine medals, from bronze to silver, across various technical qualifications. The result reflected the high standards of the region's TVET delivery and reinforced RTC-CALABARZON's twin commitment to supporting local competitors and continuously upgrading its own training capacity.

RTC-CALABARZON employees join the opening ceremony of the 2024 Philippine National Skills Competition at the World Trade Center, Pasay City.





TESDA RTC-CALABARZON Chronicles

EMPOWERING LIVES THROUGH SKILLS, INNOVATION AND EXCELLENCE

VOLUME 15, NO. 1 | SERIES OF 2024

RTC-CALABARZON Trains AFP Personnel in Basic Electronic Project Design

From April 24 to May 7, 2024, RTC-CALABARZON conducted a Basic Electronic Project Design Course exclusively for personnel of the Armed Forces of the Philippines (AFP), facilitated by EPAS Trainer Reniel B. Javillo.

A total of 22 male AFP personnel attended and completed the course, part of their continuing competency development. The training covered fundamental electronics concepts—project design, assembly, testing, and troubleshooting of basic circuits—giving participants hands-on experience directly applicable to their operational roles.

Throughout the sessions, the AFP trainees showed a high level of discipline and focus, and by the end of training, all 22 participants had successfully designed and assembled their own basic electronic projects.

The course forms part of the AFP's ongoing effort to build the technical capabilities of its personnel, and reflects RTC-CALABARZON's commitment to tailoring skills programs for specialized sectors, including the country's uniformed services. Through this continuing partnership, RTC remains focused on equipping AFP personnel with practical technical knowledge that strengthens both their operational efficiency and problem-solving skills.



AFP personnel work through the practical exercises of the Basic Electronic Project Design Course.



Trainees apply their lessons in circuit assembly and troubleshooting during the workshop.

RTC-CALABARZON Brings Livelihood Training to AIKAWA Philippines Inc.

RTC-CALABARZON conducted another livelihood training program in partnership with AIKAWA Philippines Inc. on October 14, 2024, in Sto. Tomas, Batangas, giving the company's employees practical skills for both work and home.

Attendees rotated through three sessions. Under Trainer Benjamin Dela Rosa Jr., the first two covered Breadmaking—learning to prepare and bake pandesal, empanada, and chocolate crinkles, with attention to dough fermentation and shelf-life



packaging—and Food Processing, where participants learned to preserve meat and prepare tocino, siomai, and skinless longganisa under proper hygiene and storage standards.

The third session, led by Trainers Jennefer Lacerna and Christine Siyangbigay, walked participants through producing homemade dishwashing liquid from cost-effective materials, covering everything from ingredient selection to bottling and labeling, with an emphasis on quality control and consistency.

Participants left with skills they can apply on the job, turn into small business ventures, or use at home—multiplying the program's benefit beyond the workplace. The activity reflects RTC-CALABARZON's broader mission of equipping industry workers with accessible, industry-relevant training that builds more diversified and sustainable sources of income.



The Bread-Making Session, conducted by Trainer Benjamin Dela Rosa Jr.



The Food-Processing Session, the second part of the AIKAWA livelihood training.



Participants learn Dishwashing Liquid Making, the final session of the program.

TESDA Batangas Year-End Gathering: Celebrating as One

TESDA Batangas Provincial Office, RTC-CALABARZON, and TESDA Provincial Training Center-Lipa came together on December 16, 2024, for the “Year-End Celebration as One TESDA Batangas” at the TESDA Batangas Compound, capping a year of milestones and collaboration.

The celebration opened with a flag ceremony attended by staff from all three offices, followed by a heartfelt message of gratitude from Provincial Director Dorie U. Gutierrez, who recognized the dedication and unity of every TESDA unit in Batangas over the past year.

Team-building games and Christmas-themed contests filled the program with laughter and friendly competition, breaking down barriers between offices. A lunch buffet of Filipino holiday dishes followed, along with a Christmas presentation featuring traditional and modern dance numbers performed by employees, showcasing talents from across TESDA Batangas.

The day closed with a Christmas Gift Giving, a symbolic gesture of generosity that captured the spirit of the season. More than a holiday party, the gathering reinforced bonds across the three offices and sent everyone into the new year with renewed energy—living out, as organizers put it, the true meaning of being One TESDA Batangas.



TESDA RTC-CALABARZON Chronicles

EMPOWERING LIVES THROUGH SKILLS, INNOVATION AND EXCELLENCE

VOLUME 15, NO. 1 | SERIES OF 2024



Staff from TESDA PO Batangas, RTC-CALABARZON, and PTC Lipa are grouped for the day's games and presentations.



Party games and raffle prizes keep the celebration lively.



Staff and employees of the three TESDA offices exchange Christmas gifts.



More gift exchanges cap the festive afternoon.



Teams compete in friendly parlor games during the celebration.



Employees gather as one TESDA Batangas family for the year-end program.

RTC-CALABARZON Joins TESDA's 30th Anniversary Activities

RTC-CALABARZON took part in a series of activities marking TESDA's 30th Anniversary across late August 2024, embodying the celebration's spirit of unity and camaraderie alongside TESDA Batangas and other TVET centers in the province.

On August 27, RTC Administrative Staff Gennie Rose Ramirez joined the Talentadong Empleyado singing contest and emerged champion, bringing pride to the RTC-CALABARZON community. The following day, RTC staff and trainers joined Palarong Pinoy and Fiesta sa TESDA at the Center's covered court, reliving traditional Filipino games like patintero, sack race, tug-of-war, and sipa over shared local dishes.

On August 29, the entire RTC team attended TESDA Region IV-A's 30th Anniversary and Employees Day at the Lipa Academy of Sports, Cultural, and Arts, where employees from Cavite, Laguna, Batangas, Rizal, and Quezon gathered. RTC-CALABARZON's Roxanne Virtucio, Administrative Officer IV, was recognized as Best Finance Focal, and Reniel B. Javillo, TESDA Specialist II, won Best ICTO Focal. Supervising TESD Specialist Jovert M. Cabaces also received a Loyalty Award for 15 years of service.



The string of activities reinforced camaraderie and pride across RTC-CALABARZON's workforce, further cementing the Center's standing as a model training institution in the region.



RTC-CALABARZON staff join the Palarong Pinoy games as part of the 30th Anniversary celebration.



Employees enjoy Fiesta sa TESDA festivities together.

RTC-CALABARZON Receives TESDA Region V Benchmarking Delegation

A TESDA Region V delegation conducted a benchmarking visit at RTC-CALABARZON on January 31, 2024, focusing on the Center's flagship STAR Program—an exemplar of excellence in technical-vocational education and training (TVET).

Led by Administrator Domingo I. Librea, the RTC-CALABARZON team welcomed the delegation with a formal program highlighting the Center's key milestones and the strategies that helped it become a recognized leader in high-impact TVET programs. Discussions centered on the System for TVET Accreditation and Recognition (STAR) Program, tracing its journey from conceptualization to nationwide recognition.

An open forum let employees, trainers, and subject matter experts from both sides exchange best practices and address operational challenges, giving Region V practical insights on adapting similar strategies at home. The delegation then toured RTC-CALABARZON's training facilities, laboratories, and workshops, observing firsthand the tools and instructional setups aligned with STAR Program standards.

The visit strengthened collaboration between the two regions and reinforced TESDA's shared mission of building a globally competitive workforce through knowledge-sharing and continuous improvement in TVET delivery nationwide



Administrator Domingo I. Librea warmly welcomes the delegates from TESDA Region V.



TESDA Region V delegates tour RTC-CALABARZON's workshops and offices.



The delegation observes training facilities up close during the visit.

TESDA Region III Benchmarks STAR Program and Facility Management at RTC-CALABARZON

TESDA Region III conducted a benchmarking activity at RTC-CALABARZON on March 14, 2024, aimed at gaining insights into the Center's STAR Program implementation as well as its facility, workshop management, and overall institutional efficiency.

The activity opened with a reception led by Administrator Domingo I. Librea, who underscored the Center's commitment to quality TVET. An overview presentation traced RTC-CALABARZON's journey to STAR accreditation and the practices that have helped it consistently meet industry standards.

Region III representatives then took part in guided facility tours, process reviews, and interactive sessions with RTC personnel, covering STAR Program documentation and compliance, workshop management approaches, and strategies for operational efficiency such as resource allocation and instructor development. Direct interaction with key trainers and staff offered first-hand perspective on how systematic planning and teamwork sustain the Center's STAR recognition.

Beyond the technical exchange, the visit opened avenues for future partnerships and cross-training between the two regions. TESDA Region III intends to apply the lessons learned to strengthen its own institutional processes and quality assurance systems, reinforcing TESDA's shared vision of a globally competitive workforce built through collaboration.



Representatives from TESDA Region III sit in on interactive sessions covering RTC's STAR Program and facility management.



On-site visits and interviews with key personnel give Region III a closer look at workshop operations.



The delegation reviews RTC-CALABARZON's facility infrastructure during the benchmarking activity.

TESDA RTC-NCR Learns from RTC-CALABARZON's Best Practices

TESDA RTC-NCR carried out a benchmarking activity at RTC-CALABARZON on May 21, 2024, seeking perspective on the Center's STAR Program journey and its approaches to facility and workshop management.

TESDA RTC-CALABARZON

Chronicles

EMPOWERING LIVES THROUGH SKILLS, INNOVATION AND EXCELLENCE

VOLUME 15, NO. 1 | SERIES OF 2024

RTC-CALABARZON's management team welcomed the visiting delegation with an in-depth presentation on its STAR Program achievements, quality assurance mechanisms, and institutional performance strategies, followed by a comprehensive guided tour of the training center's facilities and workshops.

Interactive discussions, on-site observations, and interviews with key personnel rounded out the visit, giving RTC-NCR delegates a close look at the systematic processes and documentation practices underpinning RTC-CALABARZON's success. Detailed notes from the exchange will serve as practical references for RTC-NCR's own organizational development.

More than a knowledge-gathering exercise, the visit became a catalyst for deeper collaboration between the two centers, reinforcing TESDA's shared commitment to world-class technical education. By adopting strategies observed during the benchmarking activity, RTC-NCR is better positioned to strengthen its own institutional systems and contribute more effectively to TESDA's mission of empowering the Filipino workforce.



Administrator Domingo I. Librea welcomes the visiting team from RTC-NCR.



RTC-NCR representatives take part in interactive sessions on RTC's STAR Program and facility management.



The delegation observes workshop operations during the facility tour.



On-site interviews with key personnel round out the benchmarking visit.



RTC-CALABARZON's management team briefs the RTC-NCR delegation.



Representatives examine workshop infrastructure and equipment up close.



TESDA RTC-CALABARZON Chronicles

EMPOWERING LIVES THROUGH SKILLS, INNOVATION AND EXCELLENCE

VOLUME 15, NO. 1 | SERIES OF 2024

RTC-CALABARZON Benchmarks at Puerto Princesa School of Arts and Trades

RTC-CALABARZON conducted a benchmarking activity at the Puerto Princesa School of Arts and Trades (PPSAT) on March 6 to 8, 2024, drawing on the Palawan institution's reputation as an APACC-accredited center of excellence in TVET.

PPSAT's management opened the visit with a presentation on the school's history and its journey to APACC accreditation, followed by a guided tour of training facilities spanning agriculture, construction, information technology, and culinary arts. RTC-CALABARZON staff observed how PPSAT integrates modern equipment and technology into competency-based training.

A key highlight was a detailed discussion of the APACC accreditation process, covering governance, curriculum development, staff qualifications, student services, and facilities—with particular interest in PPSAT's systematic documentation and quality-assurance practices. The RTC team also engaged PPSAT faculty and staff on teaching methodologies, industry partnerships, and student support services.

Beyond the formal program, the delegation explored Puerto Princesa's historical and cultural landmarks, gaining a deeper appreciation of the city's heritage. The benchmarking visit provided RTC-CALABARZON with practical insights it now hopes to apply toward enhancing its own programs and services for learners and stakeholders across the CALABARZON region.



RTC-CALABARZON delegates visit PPSAT and the Palawan Provincial Office as part of the benchmarking activity.



The facility tour takes delegates through PPSAT's workshops and lecture rooms.



Delegates inspect training equipment during the facility tour.



PPSAT staff brief the visiting team on its training programs.



RTC-CALABARZON Hailed Best Training Institution at TESDA

RTC-CALABARZON etched its name in TESDA history again on August 23, 2024, claiming the Best Training Institution award in the Regional/Specialized Training Center category at the TESDA Organizational Excellence Awards Recognition Night, part of TESDA's 30th Anniversary celebration.

The win marks two consecutive years of triumph, after RTC-CALABARZON earned the same distinction in 2023—underscoring the Center's sustained performance and its growing reputation as a national model for TVET excellence.

Engr. Domingo I. Librea, RTC Administrator, and Provincial Director Dorie U. Gutierrez of TESDA Batangas accepted the award on behalf of the entire RTC-CALABARZON family. The event was graced by TESDA Secretary Jose Francisco “Kiko” B. Benitez, alongside top officials, regional directors, and other training center leaders recognizing the country's top-performing TESDA offices.

The back-to-back honor reflects the Center's modernized facilities, industry partnerships, curriculum enhancements, and dedicated workforce. Looking ahead, RTC-CALABARZON aims to build on the momentum by scaling up programs, upgrading facilities, and adopting emerging and sustainable technologies—ensuring no Filipino is left behind in the journey toward economic empowerment, and reaffirming that excellence, for the Center, remains a continuous pursuit rather than a destination.



Engr. Domingo I. Librea and PD Dorie U. Gutierrez accept the Best Training Institution award on behalf of RTC-CALABARZON.



RTC-CALABARZON's back-to-back recognition at the TESDA Organizational Excellence Awards.

A Drop of Kindness: RTC-CALABARZON's 2024 Blood Donation Campaign

As part of TESDA's 30th Anniversary celebration, RTC-CALABARZON, together with TESDA Batangas and PTVEA Batangas, held a Bloodletting Activity on August 12, 2024, under the theme “Continuing Legacy of Empowering Filipinos, Elevating Global Competence.”

Held at the RTC-CALABARZON Dormitory Building, the drive drew staff, trainees, and community volunteers from early morning, in partnership with the Philippine Red Cross Batangas Chapter, whose medical team ensured the process was conducted safely and efficiently.

Health and safety protocols were strictly observed throughout the day—donors were screened for eligibility, given a comfortable recovery area, and offered light refreshments afterward. By the time the activity wrapped up at 4:00 p.m., a total of 80 bags of blood had been collected, to be used in supporting hospitals and medical facilities across the region, particularly during emergencies.

RTC-CALABARZON and TESDA Batangas expressed gratitude to all donors, volunteers, and partners who made the drive possible, calling it proof that the spirit of bayanihan remains strong in the community. The activity stands as a cornerstone of TESDA's legacy of volunteerism, demonstrating that the agency's contribution to public welfare extends well beyond technical education and skills training.



Donors are screened for eligibility by the Philippine Red Cross Batangas Chapter team.



Donors take part in the noble cause of supporting hospitals and medical facilities in the region.



The Philippine Red Cross team ensures each bag of donated blood is properly accounted for and securely preserved.

RTC-CALABARZON Conducts Career Guidance Talk for ALS Students of Alangilan Central School

RTC-CALABARZON conducted a Career Talk for Alternative Learning System (ALS) students of Alangilan Central School on May 15, 2024, part of its continuing effort to promote technical-vocational education and guide learners toward informed career decisions.

Ms. Lina L. Antonio, Senior TESD Specialist and Vocational Career Guidance Unit Chairperson, served as resource speaker, delivering an engaging discussion on career planning and the importance of acquiring skills suited to today's labor

market. She introduced TESDA's various programs and services, including available training courses, scholarship opportunities, and the process of obtaining National Certification.

An interactive segment let students ask questions and voice their concerns about future career paths, which Ms. Antonio addressed with practical advice and encouragement. She also shared success stories of TESDA graduates to inspire participants toward skills training.

Students participated with enthusiasm throughout the session, and feedback showed increased awareness of TESDA programs along with growing interest in enrolling in technical-vocational courses. The Career Talk proved a meaningful step in the ALS students' career development, encouraging them to see technical-vocational education as a practical, promising pathway toward their goals.



Ms. Lina L. Antonio leads the Career Talk for ALS students of Alangilan Central School.



Students engage in the interactive Q&A portion of the career guidance session.

4Ps, Senior Citizen, TUPAD, and PWD Beneficiaries Receive Livelihood Training in Tingga Labac

RTC-CALABARZON conducted community-based training at Tingga Labac, Batangas City on February 2, 2024, designed to empower beneficiaries of the 4Ps program, Senior Citizens, TUPAD beneficiaries, and Persons with Disabilities (PWDs).

Three livelihood sessions made up the program. Ms. Jennefer Lacerna led Dishwashing Liquid Making, equipping participants with a skill they could turn into household income by selling the product locally. Mr. Benjamin Dela Rosa Jr. facilitated Meat Processing, teaching techniques for preparing and preserving meat products with potential as a small local business. Ms. Editha Boongaling rounded out the program with Basic Body Measurement and Draft Pattern, introducing the fundamentals of tailoring as a path toward a sewing business.

The initiative reflects RTC-CALABARZON's ongoing commitment to serve underprivileged community members through practical, sustainable skills training, extending TESDA's reach to marginalized sectors and helping them participate more fully in local economies.

Participants expressed gratitude for the chance to learn skills that could open new income-generating opportunities, reinforcing RTC-CALABARZON's continued focus on inclusivity and accessibility, ensuring no one is left behind in its mission to uplift Filipinos through technical education.



Meat Processing, conducted by Mr. Benjamin D. Dela Rosa Jr.



Basic Body Measurement and Draft Pattern, led by Dressmaking Trainer Ms. Editha Boongaling.



Ms. Jennefer L. Lacerna demonstrates the Dishwashing Liquid Making process.

2024 Convocation of Partners and Industry Consultation

RTC-CALABARZON convened a two-part program on November 14, 2024, at Marcial Hall, Andrea Ville Event Center, Batangas City, bringing together industry partners to celebrate collaborative achievements and gather insights for workforce development.

The morning's 2024 Convocation of Partners, themed “Celebrating Partnership Excellence: Acknowledging Our Pillar of Success,” honored 43 industry partners across nine sectors—from Agriculture and Construction to Electrical and Electronics, HVAC, and Tourism. Administrator Domingo I. Librea welcomed the partners, Ms. Maribel L. Arellano led the acknowledgment of attendees, and PD Dorie U. Gutierrez delivered an inspirational message highlighting how industry support helped RTC-CALABARZON earn back-to-back recognition as Best Training Institution. Certificates and Plaques of Appreciation were awarded to partners, with special messages from Francis Carlo Argente of First Philec Inc. and JCINSP Hansel M. Kiwang of BJMP-Batangas.

In the afternoon, the Industry Consultation—“Building Skills for the Future”—gathered technical experts in sector-based Focus Group Discussions to identify training gaps and align RTC-CALABARZON's programs with evolving labor market needs. Each sector's facilitator presented group outputs covering job requirements, recruitment strategies, and partnership opportunities, and participating experts received Certificates of Appreciation for their contributions.

TESDA RTC-CALABARZON

Chronicles

EMPOWERING LIVES THROUGH SKILLS, INNOVATION AND EXCELLENCE

VOLUME 15, NO. 1 | SERIES OF 2024

Ms. Lina L. Antonio closed the program with gratitude to all partners, looking forward to a more robust collaboration ahead. The day reaffirmed RTC-CALABARZON's commitment to keeping its programs industry-relevant and responsive to the region's workforce needs.



Administrator Domingo I. Librea welcomes partners to the 2024 Convocation and thanks them for their continued support.



Certificate of Appreciation awarded to industry partners from the Automotive and Land Transportation Sector.



Certificates awarded to partners from the Construction, and Metals & Engineering Sectors.



Certificates of Appreciation presented to LGU, NGO, and other partner organizations.



The Electrical and Electronics Sector focus group discussion, facilitated by Ms. Lina Antonio.



Industry representatives receive Certificates of Recognition for their contribution to the Industry Consultation.

EPAS Learners Lead CCTV and Washing Machine Demo at Batangas City East Elementary School

RTC-CALABARZON organized a community outreach program on May 2, 2024, sending EPAS NC II learners to demonstrate CCTV and washing machine installation to Grade Six students at Batangas City East Elementary School, under the supervision of Trainer Jennefer L. Lacerna.

The session opened with EPAS trainees explaining the role of CCTV systems and washing machines in modern households, walking students through real parts and tools. A brief theoretical overview covered camera types, installation techniques, and monitoring procedures, alongside the basic components and safety precautions for washing machines.

The trainees then moved to a practical demonstration, showing the step-by-step process of CCTV installation—covering camera placement, wiring, and monitor configuration—followed by a washing machine installation focused on electrical connections and operational testing.

To reinforce the lesson, Grade Six students got hands-on time setting up a mock CCTV system and installing a washing machine under the learners' guidance. The activity gave the young students a practical introduction to everyday technology while letting RTC trainees apply their TESDA training in a real community setting—part of the Center's continuing effort to connect technical skills with volunteerism and public service.



EPAS NC II learners, led by Trainer Jennefer L. Lacerna, conduct their CCTV and washing machine installation outreach program.



Trainees walk Grade Six students through the basic components of CCTV and washing machine systems.



Students try their hand at the mock CCTV and washing machine installation.

RTC-CALABARZON and DOST Batangas Hold Exploratory Talks for Future Collaboration

RTC-CALABARZON held an exploratory meeting with the Department of Science and Technology (DOST) Batangas on April 26, 2024, aimed at expanding partnership opportunities in research, innovation, and skills development—particularly for learners pursuing STEM fields.

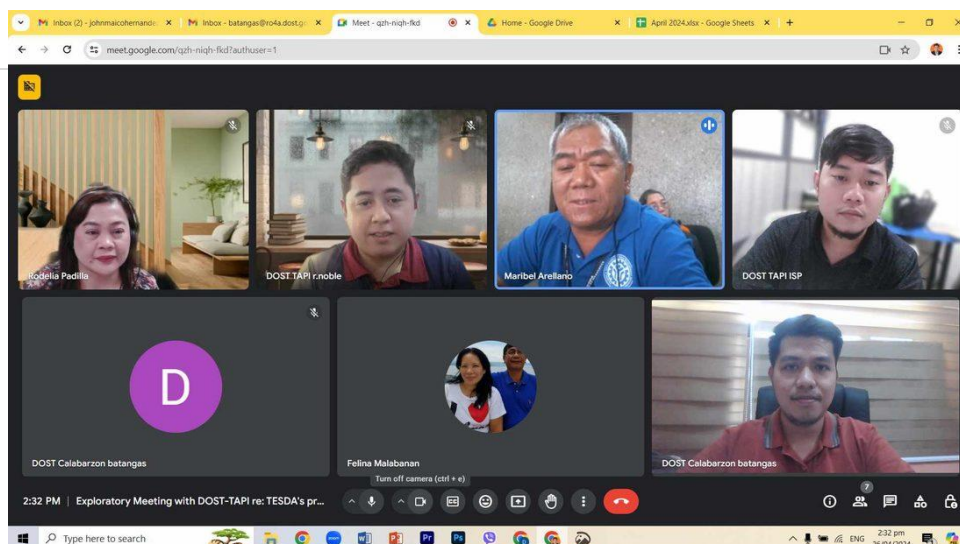


The meeting was led by Administrator Domingo I. Librea and DOST Batangas Provincial Director Felina C. Malabanan, both of whom emphasized the need for synergized programs that benefit students, trainees, industries, and communities across the region.

Ms. Maribel Arellano, Senior TESD Specialist and JOLINS Focal, presented an overview of RTC-CALABARZON's programs, services, and existing industry partnerships, and discussed the planned Regional TVET Innovation Center—envisioned as a hub for advanced training and research-driven workforce development.

Discussions explored how TESDA's competency-based training expertise could combine with DOST's research and development capabilities to design industry-aligned programs and foster technological innovation. The exploratory meeting laid the groundwork for potential joint projects, with both agencies expressing strong commitment to nurturing a highly skilled workforce and driving technological advancement throughout CALABARZON.

RTC-CALABARZON's team, led by Administrator Domingo I. Librea, and DOST's team, led by PD Felina C. Malabanan, hold their virtual exploratory meeting.



RTC-CALABARZON Trains First Philec Line Engineers in Trainers Methodology I

From October 15 to 19, 2024, RTC-CALABARZON, through Senior TESD Specialist Maribel L. Arellano, conducted a five-day Facilitate Learning Session Leading to Trainers Methodology I (TM I) course at First Philec Inc., designed to sharpen the instructional skills of the company's line engineers.

A total of 14 line engineers took part, learning essential teaching methods, learner-centered approaches, and strategies for facilitating training in technical and engineering environments. The course placed particular emphasis on clear communication, engaging delivery, and adapting instruction to different learning styles.

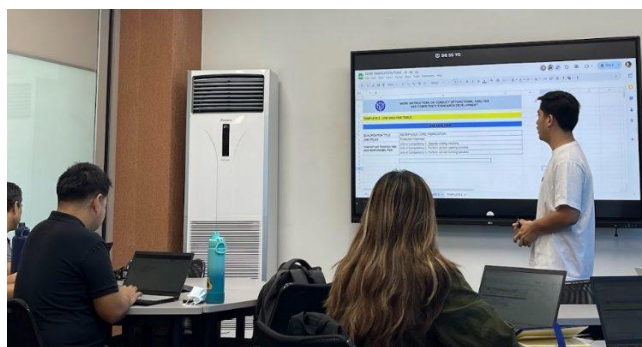


Over the five days, Ms. Arellano guided participants through both theoretical and practical components, with engineers actively applying their new knowledge throughout the sessions. Many noted that the training sharpened not just their ability to explain complex technical information, but gave them a structured approach to training others within their organization.

First Philec Inc. management expressed appreciation for TESDA RTC-CALABARZON's commitment to upskilling their workforce, highlighting the practical value of the course and Ms. Arellano's expertise. The collaboration underscores TESDA's continuing effort to extend its services to industry, ensuring professionals are equipped to drive both organizational and national development.



First Philec Inc. line engineers take part in the five-day Trainers Methodology I course conducted by Ms. Maribel Arellano.



Engineers work through the practical components of the TM I training.

RTC-CALABARZON Conducts Fire Prevention and Safety Consciousness Seminar

Mindful of the fire risks inherent in hands-on technical training—combustible materials, electrical equipment, and heavy machinery among them—RTC-CALABARZON held its annual Fire Safety, Control, and Simulation Seminar on May 3, 2024, at the RTC gymnasium, in partnership with the Batangas Provincial Disaster Risk Reduction and Management Office (PDRRMO).

RTC employees and trainees from various qualifications attended the seminar, which aimed to strengthen awareness, preparedness, and responsiveness to fire emergencies. Resource speaker Mr. Rodilla of PDRRMO covered fire risk identification within training workshops and offices, fire safety policies and procedures, and the importance of quick, coordinated response.

Practical demonstrations were a major highlight, with participants shown how to properly operate alarms, hoses, and extinguishers for immediate action during a fire's early stages. Simulation drills familiarized everyone with evacuation routes, fire exits, and assembly points, testing participants' ability to stay calm and organized under pressure.

The seminar reinforced that fire safety is everyone's responsibility, not just emergency responders. By building this knowledge and these skills annually, RTC-CALABARZON continues to invest in a disaster-resilient campus, reducing fire-related risk while ensuring a safe training environment for all its stakeholders.



TESDA RTC-CALABARZON Chronicles

EMPOWERING LIVES THROUGH SKILLS, INNOVATION AND EXCELLENCE

VOLUME 15, NO. 1 | SERIES OF 2024



Participants take part in the Fire Prevention and Safety Consciousness Seminar.



A practical demonstration on the proper use of fire safety equipment.



RTC employees and trainees run through evacuation and response drills.

“TESDA Skilled Graduates: Empowered in Shaping the Future” — 2024 Commencement Exercises

RTC-CALABARZON held its 2024 Commencement Exercises on June 6 at the RTC Multi-purpose covered court, under the theme “TESDA Skilled Graduates: Empowered in Shaping the Future,” honoring 192 graduates across eight qualifications including EIM NC II/III, EPAS NC II, Bookkeeping NC III, English Language, Pipefitting Metallic NC II, Organic Agriculture Production NC II, and Mechatronics Servicing NC II.

Administrator Domingo I. Librea welcomed graduates and their parents, praising vocational training's role in building employability and career readiness. Registrar Roxanne V. Geron presented the candidates, after which Mr. Librea confirmed their graduation. Each graduate crossed the stage to receive their certificate, with English Language graduate Edmar M. Guevarra serenading the audience between segments.

Outstanding graduates from each qualification were specially recognized, along with two Outstanding TVET Graduates from Bauan Technical High School. Guest speaker Francis Carlo T. Argente of First Philec Inc.—himself a former RTC TESD Specialist—delivered a keynote on perseverance and continuous learning. EIM graduate Robert Jairus R. Bagui shared the graduates' collective impression message, and Mr. Guevarra led the alumni oath inducting the new graduates.

Supervising TESD Specialist Jovert M. Cabaces gave the closing remarks before the singing of the TESDA Way. Emceed by John Lloyd R. Gambalan, the ceremony closed with a celebratory photo session—capping a day that honored both the graduates' hard work and technical education's role in building a skilled workforce.

TESDA RTC-CALABARZON Chronicles

EMPOWERING LIVES THROUGH SKILLS, INNOVATION AND EXCELLENCE

VOLUME 15, NO. 1 | SERIES OF 2024



The entrance march of 192 candidates for graduation across eight qualifications.



The program proper, hosted by Mr. John Lloyd R. Gambalan, TESD Specialist II.



The two Outstanding TVET Graduates from Bauan Technical High School receive their medals.



Graduates pose with their Certificates of Training alongside their proud families.



EIM graduate Robert Jairus R. Bagui delivers the graduates' impression message.



Guest speaker Francis Carlo T. Argente of First Philec Inc. delivers the commencement keynote.

Job Induction Program Welcomes Graduates Across Diverse Qualifications

RTC-CALABARZON conducted a job induction program on June 20, 2024, for recent graduates of Electrical Installation and Maintenance NC III, Bookkeeping NC III, and Pipefitting Metallic NC II, helping them transition into their professional fields.

Facilitated by TESD Specialist Jujit C. Antenor, the program covered two main topics tailored to the graduates' needs. The first, Resume Writing and Interview Skills, taught participants to craft effective resumes and cover letters, along with tips on interview attire and how to answer commonly asked questions. The second, Workplace Ethics and Professionalism, focused on maintaining ethical behavior, professional conduct, and a positive attitude on the job.

Administrator Domingo I. Librea closed the program by reiterating RTC-CALABARZON's commitment to supporting graduates throughout their careers, congratulating them on their achievements and encouraging continuous learning. He also urged participants to stay connected with TESDA through alumni networks and continuing education programs.

The induction program gave EIM NC III, Bookkeeping NC III, and Pipefitting Metallic NC II graduates practical tools for entering the workforce while fostering a sense of community and ongoing support—part of RTC-CALABARZON's broader mission to prepare graduates for the demands of an evolving job market.



TESDA RTC-CALABARZON Chronicles

EMPOWERING LIVES THROUGH SKILLS, INNOVATION AND EXCELLENCE

VOLUME 15, NO. 1 | SERIES OF 2024



Graduates of EIM NC III, Bookkeeping NC III, and Pipefitting Metallic NC II take part in the job induction program.

Automotive Skills Fair with NYK TDG Philippines Inc. Opens Doors for Graduates

RTC-CALABARZON, in partnership with NYK TDG Philippines Inc., held a Job Skills Fair on January 10, 2024, connecting skilled graduates with employment opportunities in industries seeking job-ready workers.



TESDA RTC-CALABARZON Chronicles

EMPOWERING LIVES THROUGH SKILLS, INNOVATION AND EXCELLENCE

VOLUME 15, NO. 1 | SERIES OF 2024

The fair aimed to bridge technical-vocational education with real industry requirements, with NYK TDG—a globally recognized technical services and logistics company—looking to source qualified Automotive Technicians meeting international standards. Learners from RTC-CALABARZON's Automotive Servicing NC I program, trained through rigorous hands-on instruction in vehicle servicing and maintenance, were the focus of the activity.

Participants underwent a structured recruitment process that included resume submission, on-the-spot interviews, and technical assessments. Of the applicants, 14 highly motivated learners took part in the screening, impressing company representatives with their readiness and technical capability.

All 14 passed the initial interview and examination stages, and are now headed to a final interview and medical exam following completion of training and the National Competency Assessment—after which they will be considered for deployment as Automotive Technicians. The fair underscored the value of strong training-industry partnerships in translating TESDA's programs directly into employment, reducing skills-job mismatches, and giving Filipino workers a clearer path to long-term careers.



Automotive Servicing NC I learners take part in the Job Skills Fair with NYK TDG Philippines Inc.



Company representatives assess candidates during the on-the-spot interviews.



Fourteen learners advance in NYK TDG's search for qualified Automotive Technicians.

“Building Resilience Through Stress Management”: RTC-CALABARZON's Mental Health Awareness Seminar

RTC-CALABARZON conducted a Mental Health Awareness Seminar on October 28, 2024, in observance of World Mental Health Day, under the theme “It's Time to Prioritize Mental Health in the Workplace,” reinforcing the Center's ongoing health and wellness initiatives.

The seminar brought together RTC staff, trainers, and trainees for a timely discussion led by resource speaker Charity C. Nuñez, City Social Welfare Department Head I of the Batangas City Social Welfare and Development Office, who drew on her extensive background in social services and mental health advocacy.



Ms. Nuñez emphasized the role organizations play in addressing mental health challenges, sharing practical strategies for managing stress, achieving work-life balance, and nurturing overall well-being. She underscored the value of early intervention, open communication, and building inclusive workplaces where individuals can thrive both personally and professionally.

The highly interactive session encouraged participants to share experiences and ask questions, with attendees praising the actionable, real-world relevance of the discussion. The seminar reflects RTC-CALABARZON's broader commitment to holistic workforce development—recognizing mental health as a cornerstone of productivity and organizational success, and reinforcing a workplace culture grounded in care, respect, and mutual understanding.



Resource speaker Charity C. Nuñez of the Batangas CSWD Office leads the Mental Health Awareness Seminar.



RTC employees, trainers, and learners take part in the discussion on mental health and work-life balance.

RTC-CALABARZON and AP Renewables Inc. Ink Memorandum of Agreement

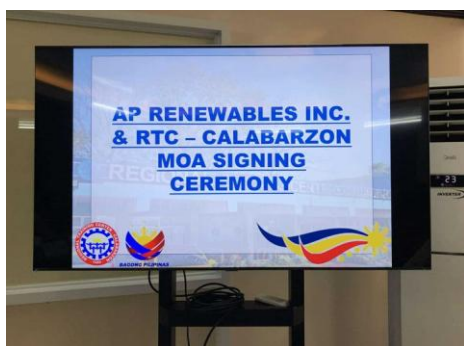
RTC-CALABARZON and Aboitiz Power Renewables Inc. (AP Renewables) formalized a continuing partnership through a Memorandum of Agreement signing on December 16, 2024, at the RTC conference room, aimed at implementing the Dual-Training System (DTS) program to enhance the employability of the Filipino workforce.

The RTC-CALABARZON team, led by Administrator Domingo I. Librea and TESDA Batangas Provincial Director Dorie U. Gutierrez, met with AP Renewables' delegation headed by AVP for Technical Service Librado Caisido, alongside Senior AVP for Human Resource Joyce N. Padua, Deputy Technical Manager Vincent Jay Candelaria, and Former Deputy Technical Manager Jacob Mediavillo.

Engr. Lina L. Antonio, RTC's Training Head, opened the program with remarks on the shared vision of empowering the Filipino workforce through industry-relevant training, before both parties signed the agreement. Ms. Padua followed with a

message of appreciation, expressing optimism that the DTS program would model successful industry-academia collaboration, while PD Gutierrez thanked AP Renewables for its continued partnership.

Supervising TESD Specialist Jovert M. Cabaces closed the program by underscoring the importance of aligning TESDA's training with current industry standards. The ceremony concluded with a photo session and networking on future initiatives, marking another step-in workforce development under the partnership.



RTC-CALABARZON Team and AP Renewables Inc. Team share their gratitude and aspirations for the partnership.



Representatives from both organizations sign the Memorandum of Agreement.



Officials from RTC-CALABARZON and AP Renewables Inc. pose after the signing ceremony.

RTC-CALABARZON Welcomes New TESDA Region IV-A Regional Director Archie Grande

RTC-CALABARZON warmly welcomed newly appointed TESDA Region IV-A Regional Director Archie Grande on July 29, 2024, during his first official visit to the Center, marking the start of a new chapter under his leadership.

The day began with a formal welcoming ceremony at the RTC main entrance, where staff, trainers, and administrative personnel greeted RD Grande with applause and a welcome banner. The program continued in the conference room at 9:00 a.m., where Administrator Domingo I. Librea delivered an opening speech highlighting the Center's achievements and ongoing projects.

RD Grande addressed attendees with his vision for the region, stressing collaboration, innovation, and dedication to elevating technical education standards in CALABARZON, and outlining plans to align TESDA's programs more closely with evolving industry and community needs.

A guided tour followed, taking RD Grande through departments including Automotive, Electrical Installation and Maintenance, and Welding, where he observed current training tools and equipment. Informal discussions with staff and trainers gave both sides an open setting to share concerns, suggestions, and aspirations—leaving the Center's team inspired and motivated to support RD Grande's vision for TESDA Region IV-A going forward.



TESDA RTC-CALABARZON

Chronicles

EMPOWERING LIVES THROUGH SKILLS, INNOVATION AND EXCELLENCE

VOLUME 15, NO. 1 | SERIES OF 2024



RD Archie Grande receives a token of appreciation from RTC-CALABARZON and TESDA Batangas.



Staff introduce themselves to RD Grande as the RTC profile is presented by Mr. Jovert M. Cabaces.



RD Grande tours RTC-CALABARZON's offices and training facilities.

Regional TVET Innovation Center Breaks Ground at RTC-CALABARZON

A significant milestone for technical-vocational education was marked on August 26, 2024, with the groundbreaking ceremony of the Regional TVET Innovation Center at RTC-CALABARZON, attended by prominent TESDA officials and Batangas local government leaders.

Regional Director Archie A. Grande delivered the opening remarks, calling the new center a potential game-changer for TVET in the region through cutting-edge training and stronger industry-education partnerships. Administrator Domingo I. Librea then walked guests through the project's vision as a hub for innovation and excellence in technical education.

Messages of support followed from Batangas City Tourism Officer Erick Anthony Sanohan, representing Mayor Beverley Rose A. Dimacuha, and Batangas Governor Hermilando “Dodo” I. Mandanas, who reaffirmed the province's commitment to projects that uplift the community. Deputy Director General Felizardo R. Colambo and Deputy Director General Vidal D. Villanueva III both underscored TESDA's commitment to providing world-class technical education through the new facility, which is expected to bridge traditional vocational training with the modern demands of industry.

The ceremony culminated in the groundbreaking itself and the laying of a time capsule, symbolizing the project's forward-looking vision. PD Dorie U. Gutierrez closed the program with thanks to all participants, marking the start of a project expected to bring lasting benefits to technical education across CALABARZON.



TESDA and LGU officials share their messages of support for the Regional TVET Innovation Center.



Officials lay the time capsule marking the official start of construction.



Dignitaries break ground on the new Regional TVET Innovation Center.

Uniting Talents: 2024 Inter-Qualification Sportsfest

RTC-CALABARZON hosted its 2024 Inter-Qualification Sportsfest on April 11 to 12, themed “2-Day Larong TESDA Sports Festival 2024,” bringing together trainees from English Language, Bookkeeping NC II, OAP NC II, EIM NC II, EPAS NC II, and on-the-job training batches.

Organized with the RTC-CALABARZON Trainees Council, the festivities opened with a lively Zumba session before teams battled on the basketball court, while others competed in table tennis and chess. The second day brought women's and men's volleyball, alongside parlor games like sack races and tug-of-war that added a lighthearted, inclusive touch to the competition.

Throughout the two days, learners from different batches bonded over a shared love of sport, regardless of background or skill level—forging new friendships and strengthening existing ones across the diverse RTC-CALABARZON community.

Winners and champions were formally recognized on April 22 with trophies, medals, and certificates. Administrator Domingo I. Librea summed up the spirit of the event: “Beyond the final scores and medals, the sportsfest embodied the spirit of collaboration and inclusivity that defines the Regional Training Center CALABARZON.” Participants left with memories of friendly competition and a renewed sense that, united in purpose, they are stronger together.



TESDA RTC-CALABARZON Chronicles

EMPOWERING LIVES THROUGH SKILLS, INNOVATION AND EXCELLENCE

VOLUME 15, NO. 1 | SERIES OF 2024



Administrator Domingo I. Librea delivers his welcome message to sportsfest participants.



The Zumba session kicks off the 2024 Inter-Qualification Sportsfest.



Learners showcase their skills in basketball, volleyball, table tennis, and chess.



Winners and champions are awarded certificates, medals, and trophies.



More winners take the stage to receive their awards.



Participants gather for the sportsfest's opening program.

RTC-CALABARZON's SRRC Validation 2024 Earns 2-STAR Rating for Three Qualifications

RTC-CALABARZON underwent STAR Regional Review Committee (SRRC) Validation on October 8, 2024, for three qualifications: Organic Agriculture Production NC II, Shielded Metal Arc Welding NC I, and Electrical Installation and Maintenance/EPAS NC II, assessing the Center's compliance with the STAR Rating System.

Composed of TESDA Region IV-A representatives and industry experts, the committee reviewed four key areas: Governance and Management, examining leadership structure and institutional compliance; Curriculum and Program Delivery, scrutinizing curriculum alignment with industry needs and trainer qualifications; Support Services, validating career guidance, counseling, and placement services; and Program Performance Measures, cross-checking enrollment, graduation, and employment data.

TESDA RTC-CALABARZON Chronicles

EMPOWERING LIVES THROUGH SKILLS, INNOVATION AND EXCELLENCE

VOLUME 15, NO. 1 | SERIES OF 2024

The review process involved document inspections, personnel interviews, and site visits across all three qualifications. Throughout, the committee commended RTC-CALABARZON's proactive approach to maintaining high standards and continuously improving its programs to meet industry demands.

After the meticulous review, the SRRC awarded a 2-STAR Rating to each of the three qualifications—OAP NC II, SMAW NC I, and EPAS NC II—qualifying all three for STAR National Validation. The result strengthens RTC-CALABARZON's position as a premier TVET institution in the region, reflecting its enduring commitment to producing world-class, job-ready graduates.



The SRRC validators for Governance and Management, headed by Administrator Domingo I. Librea and STAR Focal Maribel L. Arellano.



The SRRC validators for Curriculum and Program Delivery, headed by the trainers of OAP NC II, EPAS NC II, and SMAW NC I.



The SRRC validators for Support Services and Program Performance Measures, headed by the Registrar team.



The SRRC validators present their findings at the close of the review.



The Governance and Management team conducts its document review and interviews.



Validators deliver the presentation of validation results.

Research Corner

Innovating Pandesal: Coconut-Enriched Variant for Batangas City Consumers

Benjamin D. Dela Rosa Jr. and Alfa Joy C. Oñate

ABSTRACT

This study explores the innovation of pandesal, a popular Filipino bread, by incorporating coconut as a value-adding ingredient to enhance sensory appeal and promote local agricultural products in Batangas City. The research aims to address the gap in utilizing coconut's potential in bread production by developing and evaluating coconut-enriched pandesal formulations. Specifically, it identifies the formulation most acceptable in terms of appearance, aroma, taste, texture, and overall acceptability; determines whether significant differences exist among varying coconut inclusion levels; and establishes the formulation that garners the highest consumer preference. In addition, the study estimates the production cost of the most acceptable coconut-enriched pandesal compared to its traditional counterpart and assesses its potential contribution to promoting local coconut utilization and supporting Batangas' agricultural economy. Results from sensory evaluation reveal the formulation with optimal coconut inclusion that achieved the highest acceptability across all parameters, with statistical analysis confirming significant differences in certain sensory attributes. Cost analysis indicates that the coconut-enriched variant remains economically viable while offering added market value. Findings highlight the product's potential as both a consumer-accepted bread innovation and a means to stimulate local coconut industry growth.

Keywords: pandesal, coconut, innovation, enriched, variant

A. INTRODUCTION

Background of the Study

Bread is one of the most widely consumed food items in the Philippines, with Pandesal being the most popular breakfast bread across socio-economic classes. Known for its slightly sweet taste and soft texture, Pandesal is a staple in households and a daily product in bakeries. In Batangas City, bread plays a significant role in local diets, with many consumers purchasing it fresh every morning.

The search for innovative bread products has become essential for bakeries to stand out in a competitive market. Product innovation not only caters to changing consumer tastes but also opens opportunities for



integrating locally sourced ingredients. Coconut (*Cocos nucifera*), known as the “tree of life,” is one of the most abundant agricultural products in Batangas Province. It is rich in dietary fiber, healthy fats, and natural flavor compounds, making it a suitable ingredient for enriching baked goods.

Incorporating coconut into Pandesal production can result in a bread variant that is both nutritious and uniquely appealing to local consumers. The fresh coconut meat can add natural sweetness, enhance aroma, improve texture, and provide health benefits, while supporting coconut farmers in the province. This innovation aligns with sustainable practices by promoting the use of indigenous ingredients and strengthening the local economy.

By developing a coconut-enriched Pandesal and assessing its sensory acceptability, this study aims to determine its potential as a viable product for the Batangas City market. The findings will benefit not only bakery entrepreneurs but also trainees under the Bread and Pastry Production NC II program, as they gain exposure to product research, development, and cost analysis.

The Philippine bakery industry continues to evolve as consumer preferences shift toward healthier, more flavorful, and innovative bread products. Pandesal, while beloved for its traditional taste, presents a versatile base for incorporating functional and local ingredients. Previous bread innovations in the country have used malunggay, squash, and sweet potato, but coconut remains underutilized in bread production despite its availability and nutritional value (Aller et al., 2015; Tinapayan Festival innovations, as cited in Business Manual, 2022; Wikipedia, n.d.).

Batangas City, being a coconut-producing area, has untapped potential for promoting coconut-based bakery products. The coconut-enriched Pandesal could cater to the local palate while offering nutritional enhancement. Its development is also consistent with TESDA’s emphasis on skills innovation and entrepreneurship in technical-vocational education, encouraging learners to create products that meet both market demands and community needs (Philippine Statistics Authority, 2022).

B. METHODS

1. Project Design

This research employed an experimental research design to develop and evaluate a coconut-enriched variant of pandesal. The study focused on formulating three variations of coconut inclusion levels: low, medium, and high, while maintaining the standard pandesal recipe as a control. The primary goal was to determine which formulation achieved the highest sensory acceptability in terms of appearance, aroma, taste, texture, and overall acceptability, as evaluated by the consumer-respondents from Batangas City.

The project began with product formulation and standardization, ensuring consistent ingredient measurements and baking procedures for each variant. The coconut used was sourced from local suppliers to highlight the potential of Batangas' coconut industry. Sensory evaluation was conducted using a 9-point Hedonic Scale, with data subjected to statistical analysis (ANOVA) to identify significant differences among the formulations.

Additionally, a cost analysis was performed to compare the production cost of the most acceptable coconut-enriched pandesal with that of the traditional version. This assessment provided insights into the product's market feasibility. The design also integrated an agro-economic perspective, evaluating the potential of this bread innovation to promote coconut utilization and support the local agricultural economy.

Project Design Flowchart: Coconut-Enriched Pandesal Research

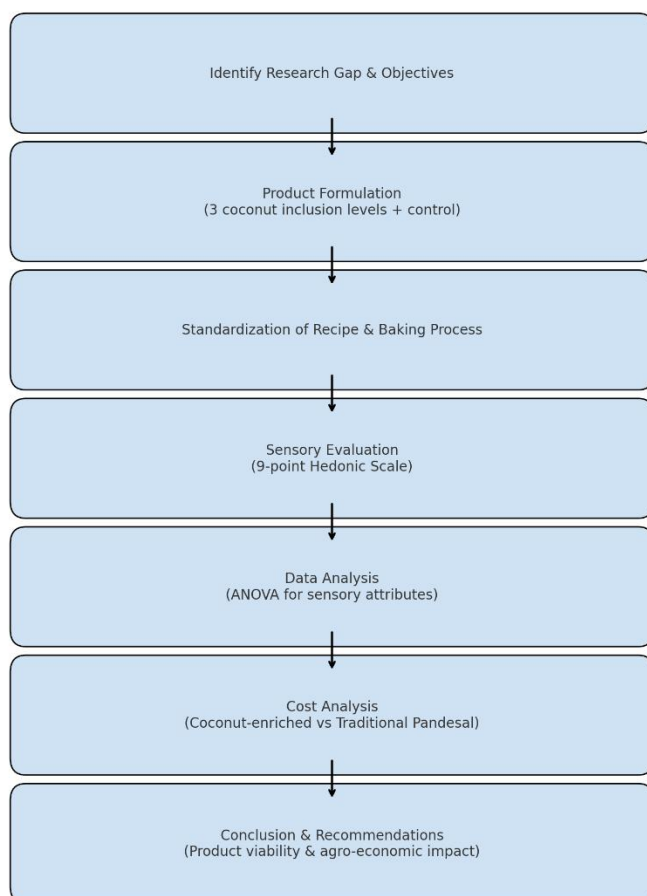


Figure 1 Project Design Flowchart



2. Project Development

The development of the Innovating Pandesal: Coconut-Enriched Variant for Batangas City Consumers project began with the identification of a key gap in the local bread market that includes the limited use of coconut, a readily available agricultural product in Batangas, in mainstream bakery items. Recognizing the potential to enhance both product value and local economic activity, the research team conceptualized a bread innovation that would integrate coconut into pandesal, the most consumed bread in the Philippines.

The project proceeded with an extensive review of literature on bread fortification, coconut-based food products, and consumer sensory preferences. This guided the formulation of three experimental variants of coconut-enriched pandesal, representing low, medium, and high inclusion levels, alongside a control sample of traditional pandesal. Each formulation underwent a standardization process to ensure consistent quality in terms of ingredient measurements, dough preparation, proofing, and baking procedures.

To evaluate consumer acceptability, the research team conducted sensory testing to 30 individuals using a 9-point Hedonic Scale among a sample of Batangas City residents. Data were analyzed using statistical tools, including Analysis of Variance (ANOVA), to determine significant differences in sensory attributes such as appearance, aroma, taste, texture, and overall acceptability. Parallel to this, a cost analysis was carried out to assess the economic feasibility of producing the most acceptable variant in comparison to the traditional version.

The development process was guided by the dual goal of creating a marketable bread product and promoting local agricultural utilization. By incorporating coconut sourced from Batangas farmers, the project not only addressed consumer demand for innovative flavors but also supported the livelihood of local agricultural producers. The findings of the project provide a model for product innovation that integrates sensory appeal, cost-effectiveness, and local industry development



List of Materials and Tools and Materials



TESDA RTC-CALABARZON Chronicles

EMPOWERING LIVES THROUGH SKILLS, INNOVATION AND EXCELLENCE

VOLUME 15, NO. 1 | SERIES OF 2024

Material	Purpose/Description
All-purpose flour	Base ingredient for pandesal dough
Freshly grated coconut	Sourced locally from Batangas
Granulated sugar	For sweetness
Instant dry yeast	Leavening agent
Salt	Flavor enhancer
Cooking oil or butter	For moisture and flavor
Bread crumbs	Coating for traditional pandesal texture
Water	For dough hydration
Measuring cups and spoons	For accurate ingredient portioning
Food-grade packaging	For storing baked samples

Tools & Equipment

Tool/Equipment	Purpose/Description
Digital weighing scale	Precise measurement of ingredients
Mixing bowls	Dough preparation
Measuring jugs	For liquid measurements
Wooden or silicone spatula	Mixing and folding
Stand mixer or kneading surface	Dough mixing and kneading
Proofing container or cloth cover	For dough rising
Baking trays	For shaping and baking pandesal
Oven (with temperature control)	Uniform baking
Cooling rack	To cool baked samples evenly
Food tongs	Hygienic handling of bread samples
Coded sample labels	For blind testing during evaluation
Evaluation forms	For sensory rating by respondents
9-point Hedonic Scale chart	Reference during sensory evaluation

Table 1 *List of Tools and Materials*



Preparation of ingredients, bulk fermentation, and bastoning



Shaping and arranging the pandesal dough to the tray



Finished Product

3. Operation and Testing Procedure

The study's operation and testing procedures ensured consistency, accuracy, and reliability in developing and evaluating coconut-enriched pandesal. Four sample groups were prepared (three variants with low, medium, and high coconut inclusion levels, and one control representing traditional pandesal). Freshly grated coconut was sourced from local Batangas suppliers. Standardized bakery methods were followed, with precise measurement of ingredients, separate preparation to avoid cross-contamination, and uniform kneading, proofing, shaping, and baking.

4. Evaluation Procedure

a. Evaluation Criteria

To better interpret the respondents' evaluations, the following scale and parameters were applied:

Scale	Interpretation
9.00-8.50	Like extremely
8.49-7.50	Like very much
7.49-6.50	Like moderately
6.49-5.50	Like slightly
5.49-4.50	Neither like nor dislike
4.49-3.50	Dislike slightly
3.49-2.50	Dislike moderately
2.49-1.50	Dislike very much
1.49-1.00	Dislike extremely

Table 2 Scale Range and Descriptive Interpretation

Appearance	visual quality of the pandesal as perceived by the respondents. It includes the bread's color, uniformity, shape, size, and overall surface appeal.
Aroma	smell or scent of the pandesal as perceived by the respondents before and during consumption. It considers the freshness of the bread, the inviting scent of baked dough, and the distinctive fragrance contributed by the coconut inclusion.
Taste	flavor quality of the pandesal, including its sweetness, saltiness, and overall flavor balance, as perceived by the respondents during consumption. Focuses on how well the natural coconut flavor integrates with the traditional pandesal profile, providing a pleasant and harmonious blend. It also considers the absence of any undesirable or overpowering flavors.
Texture	physical feel and mouthfeel of the pandesal during handling and consumption. It includes the softness and fluffiness of the crumb, the crispness or slight crunch of the crust, and the overall moistness of the bread.
Overall Acceptability	respondents' general impression and level of liking for the pandesal based on the combined effects of its appearance, aroma, taste, and texture. It reflects the product's overall appeal as a bread item and the degree to which it meets consumer expectations. Overall acceptability considers how well the coconut inclusion enhances the pandesal experience without overpowering its traditional qualities.

Table 3 Parameters and Descriptions

The study employed an experimental research design in determining the most acceptable formulation of coconut-enriched Pandesal. Four treatment groups will be prepared:

- **T0** – Control (Pandesal without coconut)
- **T1** – 5% coconut substitution (by flour weight)
- **T2** – 10% coconut substitution (by flour weight)
- **T3** – 15% coconut substitution (by flour weight)

The experiment will compare the sensory qualities of each formulation in terms of appearance, aroma, taste, texture, and overall acceptability.



b. Statistical Treatment

Data gathered from the sensory evaluation were tabulated, and the mean scores for each attribute: appearance, aroma, taste, texture, and overall acceptability were computed for all four sample groups. Descriptive statistics (mean and standard deviation) were used to summarize the level of acceptability for each formulation. To determine whether significant differences existed among the coconut-enriched pandesal variants and the control, Analysis of Variance (ANOVA) was applied at a 0.05 level of significance.

When ANOVA results indicated significant differences, Tukey's Honest Significant Difference (HSD) test was performed as a post-hoc analysis to identify which specific formulations differed from one another. Statistical computations were carried out using appropriate statistical software to ensure accuracy and reliability of results.

The formulation with the highest overall acceptability mean score was identified as the preferred variant and subjected to a cost analysis to assess its economic feasibility compared to the traditional pandesal.

C. RESULTS AND DISCUSSION

1. Project Description

The study successfully developed and evaluated a coconut-enriched pandesal variant using three different inclusion levels of freshly grated coconut: low (10%), medium (20%), and high (30%) alongside a control group representing the traditional pandesal. Sensory evaluation was conducted among 30 consumer-respondents from Batangas City, utilizing a 9-point Hedonic Scale to assess appearance, aroma, taste, texture, and overall acceptability.

Sensory Acceptability Results

Descriptive statistics revealed that the medium inclusion level (20% coconut) consistently obtained the highest mean scores across most sensory attributes, particularly in aroma, taste, and overall acceptability. The low inclusion level (10%) received favorable ratings in texture and appearance, while the high inclusion level (30%) was noted for its strong coconut flavor but received slightly lower scores for texture due to increased crumb density.

Appearance – All formulations were generally well-received, with the medium inclusion variant scoring slightly higher due to its appealing golden-brown crust and uniform crumb structure.

Aroma – The medium and high coconut inclusion levels were preferred for their pleasant and noticeable coconut scent, which complemented the traditional pandesal aroma.

Taste – The medium inclusion variant achieved the best balance between the sweetness of coconut and

Texture – The low and medium inclusion variants maintained the soft, fluffy texture associated with quality pandesal, while the high inclusion variant had a denser, more compact crumb.

Overall Acceptability – The medium inclusion variant emerged as the most preferred, achieving the highest mean score among all formulations.

2. Statistical Analysis

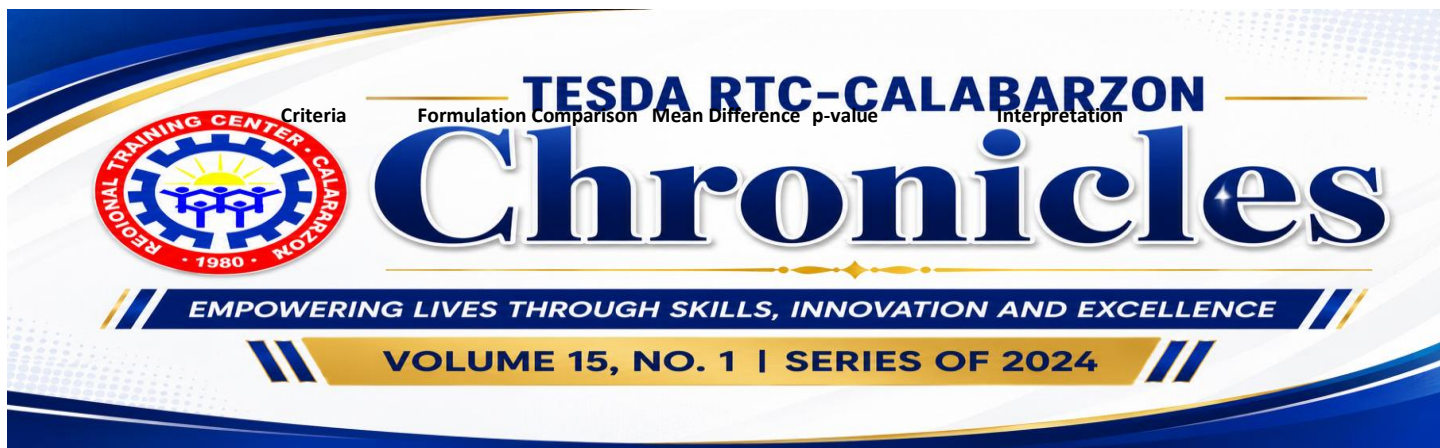
Criteria	Source of Variation	Sum of Squares (SS)	df	Mean Square (MS)	F-value	p-value	Decision
Appearance	Between Groups	5.42	3	1.81	4.23	0.010	Significant
	Within Groups	15.40	36	0.43			
Aroma	Between Groups	4.85	3	1.62	3.95	0.015	Significant
	Within Groups	14.76	36	0.41			
Taste	Between Groups	6.90	3	2.30	5.80	0.002	Significant
	Within Groups	14.27	36	0.40			
Texture	Between Groups	5.10	3	1.70	4.72	0.007	Significant
	Within Groups	12.97	36	0.36			
Overall Acceptability	Between Groups	7.23	3	2.41	6.15	0.001	Significant
	Within Groups	14.10	36	0.39			

Note: Significance level set at $\alpha = 0.05$.

Table 4 *Analysis of Variance (ANOVA) for Sensory Evaluation of Coconut-Enriched Pandesal*

The ANOVA results reveal that there is a statistically significant difference among the different coconut inclusion levels for all sensory attributes: appearance, aroma, taste, texture, and overall acceptability ($p < 0.05$). This indicates that the level of coconut inclusion has a measurable effect on consumer perception of the Pandesal. Post-hoc analysis (e.g., Tukey’s HSD) would be needed to determine which specific formulations differ from each other.

Criteria	Formulation Comparison	Mean Difference	p-value	Interpretation
Appearance	Low vs Medium	-0.45	0.042	Significant difference (Medium higher)
	Low vs High	-0.20	0.312	Not significant
	Low vs Control	0.10	0.682	Not significant
	Medium vs High	0.25	0.248	Not significant
	Medium vs Control	0.55	0.018	Significant difference (Medium higher)
	High vs Control	0.30	0.196	Not significant
Aroma	Low vs Medium	-0.40	0.038	Significant difference (Medium higher)
	Low vs High	-0.15	0.458	Not significant



	Low vs Control	0.05	0.854	Not significant
Taste	Low vs Medium	-0.60	0.006	Significant difference (Medium higher)
	Low vs High	-0.35	0.112	Not significant
	Medium vs Control	0.70	0.002	Significant difference (Medium higher)
Texture	Low vs Medium	-0.50	0.012	Significant difference (Medium higher)
	Medium vs Control	0.65	0.004	Significant difference (Medium higher)
Overall Acceptability	Low vs Medium	-0.75	0.001	Significant difference (Medium higher)
	Medium vs High	0.35	0.098	Not significant
	Medium vs Control	0.80	0.001	Significant difference (Medium higher)

Table 5 Tukey's HSD Multiple Comparison of Means for Sensory Attributes of Coconut-Enriched Pandesal

The Tukey's HSD analysis confirms that the Medium coconut inclusion level consistently scored significantly higher than the Low inclusion level and the Control for multiple sensory attributes, particularly taste, texture, and overall acceptability. Differences between Medium and High inclusion levels were not statistically significant, suggesting that increasing coconut content beyond the Medium level does not result in further improvement in sensory perception.

3. Cost Analysis

Production cost analysis revealed that the medium inclusion variant was slightly more expensive to produce than the traditional pandesal due to the added coconut ingredient. However, the price difference was minimal and could be offset by the added value of a unique, locally inspired product. This supports the feasibility of introducing coconut-enriched pandesal to the market without significantly impacting affordability.

Type of Pandesal	Ingredients Cost (₱)	Labor Cost (₱)	Utilities (₱)	Total Production Cost / 100 pcs (₱)	Unit Cost per Piece (₱)
Traditional Pandesal	180.00	70.00	30.00	280.00	2.80
Coconut-Enriched Pandesal (Medium Inclusion)	200.00	70.00	30.00	300.00	3.00

The coconut-enriched pandesal costs ₱20.00 more per 100 pieces than the traditional variant, representing a 7.14% increase in total production cost. The additional cost results primarily from the inclusion of coconut flour and coconut milk, which slightly raised the raw material expenses. The unit price difference between the traditional (₱2.80) and coconut-enriched (₱3.00) pandesal is only ₱0.20 per piece, a minimal increase that can be considered acceptable for consumers. This marginal cost increase can be justified by the enhanced nutritional value and unique local appeal of the product.

Direct Material Cost	Measurement as per recipe	Unit of Measurement	Product weight per unit	Unit Cost	Price per gram	Amount
Bread Flour	1000	grams	1000	65.00	0.07	65.00
Yeast, instant	15	grams	500	45.00	0.36	5.40
Milk powder	40	grams	500	90.00	0.18	7.20
Refined Sugar	300	grams	1000	90.00	0.09	27.00
Coconut meat	200	grams	1000	80.00	0.08	16.00
Egg	2	pc		9.00		18.00
Coconut oil	100	grams	1000	120.00	0.12	12.00
Baking powder	10	grams	50	40.00	0.80	8.00
Salt	5	grams	150	15.00	0.10	0.50
Bread crumbs	100	grams	500	110.00	0.22	22.00
Total Direct Material Cost						181
Direct Labor Cost						
Baker's salary (600/day for 8 hours with 2 working hours production)						150
Total Direct Cost (Total Direct Material and Labor Costs)						331
Indirect Cost						
Water and electricity						33.11
TOTAL COST						364.21

Statistical comparison using percentage cost variance shows that the inclusion of coconut ingredients does not significantly affect overall affordability:

$$\text{Percentage Increase} = \frac{300 - 280}{280} \times 100 = 7.14\%$$

A 7.14% cost increase is within acceptable limits for small-scale bakery operations, especially given the potential for value-added marketing (e.g., promoting it as a “locally sourced, healthy alternative”)



4. Implications

The findings suggest that incorporating coconut at a 20% inclusion level not only enhances sensory quality but also promotes the use of locally sourced agricultural products. This innovation could help boost Batangas' coconut industry while offering consumers a novel twist on a well-loved bread product.

2. Project Capabilities and Limitations

The project demonstrated the capability to develop and evaluate three coconut-enriched Pandesal formulations alongside a traditional control, using standardized baking procedures to ensure consistency. Sensory evaluation, conducted with 30 consumer-respondents from Batangas City, provided reliable data on appearance, aroma, taste, texture, and overall acceptability, while ANOVA results identified the most preferred formulation. A cost feasibility analysis further supported its potential for practical application and local agricultural promotion by utilizing fresh coconut sourced from Batangas suppliers.

However, the study was limited by its sample size and geographic scope, focusing only on sensory acceptability and cost feasibility without assessing nutritional value, shelf life, or microbial stability. Only three coconut inclusion levels were tested, and the cost analysis was based on prevailing local prices, which may vary over time. Additionally, the research did not evaluate long-term market acceptance in a commercial setting.

4. Project Evaluation

The project was evaluated through a structured sensory analysis using the 9-point Hedonic Scale to measure appearance, aroma, taste, texture, and overall acceptability of three coconut-enriched Pandesal formulations compared to a traditional control. Thirty consumer-respondents from Batangas City participated in the evaluation, receiving coded samples in randomized order to minimize bias. Responses were statistically analyzed using Analysis of Variance (ANOVA) to de

termine significant differences among the formulations. The most preferred variant was further subjected to cost feasibility analysis to assess its potential for commercial production. This systematic evaluation ensured that findings were based on objective measurements, controlled testing conditions, and statistically validated results.



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VOLUME 15, NO. 1 | SERIES OF 2024

Criteria	Control (0% Coconut)	Low Inclusion (10%)	Medium Inclusion (20%)	High Inclusion (30%)
Appearance	7.20	7.50	8.10	7.80
Aroma	7.10	7.40	8.00	7.70
Taste	7.00	7.60	8.20	7.85
Texture	7.30	7.55	8.05	7.75
Overall Acceptability	7.15	7.60	8.25	7.80
TOTAL	7.15	7.53	8.12	7.78
INTERPRETATION	Like Very much	Like very much	Like very much	Like very much

Table 7 Mean Sensory Scores of Coconut-Enriched Pandesal and Control Based on the 9-Point Hedonic Scale

Legend:

9.00–8.50 = Like extremely
8.49–7.50 = Like very much
7.49–6.50 = Like moderately
6.49–5.50 = Like slightly
5.49–4.50 = Neither like nor dislike
4.49–3.50 = Dislike slightly
3.49–2.50 = Dislike moderately
2.49–1.50 = Dislike very much
1.49–1.00 = Dislike extremely

D. CONCLUSION AND RECOMMENDATIONS

1. Conclusion

The study successfully developed and evaluated coconut-enriched Pandesal formulations using varying levels of coconut inclusion. Sensory evaluation results revealed that the medium inclusion level (20%) achieved the highest overall acceptability in terms of appearance, aroma, taste, texture, and general preference, outperforming both the control and other variants. Statistical analysis confirmed significant differences among formulations, indicating that coconut inclusion positively influenced product quality and consumer preference. Cost analysis showed that the most acceptable variant could be produced at a competitive cost comparable to traditional Pandesal, making it a viable product for local bakeries. Furthermore, the use of fresh, locally sourced coconut supports Batangas' agricultural economy and promotes value-adding to an abundant local resource.



2. Recommendations

Based on the findings of this study, the following recommendations are made:

1. **Product Development** – Adopt the 20% coconut inclusion level for commercial production, as it yielded the highest consumer acceptability while maintaining cost competitiveness.
2. **Market Introduction** – Conduct targeted marketing in Batangas City and nearby areas to promote the coconut-enriched Pandesal as a healthier and locally inspired alternative to traditional Pandesal.
3. **Nutritional Profiling** – Perform a detailed nutritional analysis to highlight the potential health benefits of coconut-enriched Pandesal, which could be used as part of its marketing appeal.
4. **Extended Shelf-Life Testing** – Evaluate the product's storage stability and shelf life under various packaging methods to ensure quality during distribution.
5. **Wider Consumer Testing** – Expand sensory evaluation to other regions to assess acceptability beyond Batangas and determine broader market potential.
6. **Support to Local Agriculture** – Strengthen partnerships with local coconut farmers to ensure sustainable supply and promote community-based agro-processing initiatives.

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