



BAGONG PILIPINAS



CAGAYAN STATE UNIVERSITY
CARIG CAMPUS

CAMPUS RESEARCH DEVELOPMENT & EXTENSION *Agenda*



FOREWORD

The Cagayan State University (CSU) Carig Campus stands at the forefront of innovation, research, and community engagement. The Research Development and Extension (RDE) Agenda 2023-2028 is a testament to CSU's unwavering commitment to contributing to national and global development goals. Grounded in a multidisciplinary approach, this agenda seeks to leverage the expertise of our academic community in addressing critical societal challenges and fostering sustainable development. From advancing food safety and security to promoting sustainable energy solutions, our research and extension initiatives are designed to create lasting impacts on both local and regional scales.

This document serves as a strategic roadmap for the next five years, guiding our efforts to address the diverse needs of our stakeholders through targeted programs and projects. It reflects the campus's dedication to innovation, collaboration, and the pursuit of knowledge that not only enhances the academic community but also empowers the broader population.

Through the collective efforts of our faculty, researchers, and partners, we are confident that the objectives outlined in this agenda will lead to meaningful contributions to society and solidify CSU Carig Campus as a hub of research excellence.

AD OPTIMUM EDUCATION
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CARIG CAMPUS



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VISION

CSU is a University with global stature in the arts, culture, agriculture and fisheries, the sciences as well as technological and professional fields.

MISSION

Cagayan State University shall produce globally competent graduates through excellent instruction, innovative and creative research, responsive public service and productive industry and community engagement.

CORE VALUES

Competence

- Critical Thinker
- Creative Problem -Solver
- Competitive Performer: Nationally, Regionally and Globally.

Social Responsibility

- Sensitive to Ethical Demands
- Steward of the Environment for Future Generations
- Social Justice and Economic Equity Advocate.

Unifying Presence

- Uniting Theory and Practice
- Uniting Strata of Society
- Unifying the Nation, the ASEAN Region and the world
- Uniting the University and the community.

CAGAYAN STATE UNIVERSITY

QUALITY POLICY AND QUALITY OBJECTIVES

Quality Policy

The Cagayan State University upholds a global stature by consistently providing excellent services through total quality management.

Quality Objectives

To reinforce its commitment, CSU shall attain the following quality objectives:

1. Sustain quality education in achieving the program outcomes of the students evidenced by meeting the standard passing rate in the licensure examination, acceptable employability rates, and evaluation of stakeholders;
2. Strengthen and sustain international and local partnerships and linkages;
3. Ensure responsiveness of CSU graduates to the needs of the nation, region and the world;
4. Improve and strengthen admission policies, curriculum review, and acquisition of facilities;
5. Implement a faculty and staff development program aligned to the needs of the University;
6. Institutionalize recruitment, screening and admission of members of the faculty by institutionalizing a process of evaluation by students and by supervisors;
7. Conduct regular physical inventory of university assets and ensure the existence of accountability documents;
8. Align the University's strategic targets to regional, national and international quality standards;
9. Provide adequate support to advance competencies for human resource development;
10. Ensure a responsive feedback mechanism through regular review and evaluation of the quality management system; and
11. Comply with standard requirements of statutory and regulatory bodies.

HISTORY OF CAGAYAN STATE UNIVERSITY CARIG CAMPUS

Cagayan State University in the Making

On July 11, 1978, Presidential Decree 1436 was signed into law, creating Cagayan State University by merging two existing state colleges: the Cagayan Valley College of Arts & Trades (CVCAT) at Tuguegarao and the Northern Luzon State College of Agriculture (NLSCA) at Piat.

The CSU Central Administration Office was established in the CVCAT unit until the Gonzaga unit was developed as the Main Campus (though it was never made a seat of governance), where the operation was supposed to be centralized.

Birth of CSU Carig Campus

Several years passed until the transfer of CSU Central Administration from the Caritan Campus to the Carig Campus, the new site of CSU at Tuguegarao, was undertaken on June 11, 1984. This has been the seat of governance until the first term of President Roger P. Perez.

Many things changed during the time of President Perez. Special attention has been given to developing infrastructure and offering new programs while closing others that are way beyond the current demands among Higher Education Institutions (HEIs). The impact was tremendous, especially in the growth of the student population. This significant increase in enrolment in the Tuguegarao (both in Caritan and Carig) has prompted the administration to split it up into two (2) separate campuses to hasten the operational burden.

Transition Period: *The Campus under the First Campus Executive Officer*

On September 22, 2009, Dr. Arthur G. Ibañez was designated as the first Campus Executive Officer (CEO) of the newest Campus of the University System situated at Carig Sur, Tuguegarao City, within an area of 19.8 hectares. Under his administration are seven (7) colleges offering 29 undergraduate and graduate degree programs. These are distributed in the College of Industrial Technology, College of Engineering (now College of Engineering and Architecture), College of Medicine and Surgery (now the College of Medicine), College of Arts & Sciences, College of Information Technology (now the College of Information & Computing Sciences), College of Veterinary Medicine, and the College of Public Administration. To further balance the enrolment between the Andrews (Caritan) and Carig campuses, the College of Human Kinetics from the Andrews campus was moved to Carig in June 2010.

The College of Engineering and College of Veterinary Medicine built a name not only for the Campus but for the entire University producing top-notch engineers and veterinarians in the licensure examinations and consistently reaping an institution's passing mark above the national level. The College of Medicine and Surgery has also been equally consistent in producing medical practitioners. International students, mostly coming from the Commonwealth countries, are also pursuing a medical degree in the same college. Foreign graduates of the College of Medicine have consistently made great remarks in the licensure examinations abroad, mainly the India Foreign Medical Graduates Examination.

In April 2010, full fiscal autonomy was granted to this Campus. This marked the beginning of infrastructure development in the Campus known as the **home of the "Red Eagles"**. Among the important landmarks include the biggest gymnasium in the Region, the 3,288 square meters Red Eagle Gymnasium, and upgraded road networks connecting the different buildings highlighted by the state-of-the-art gate that welcomes every guest from the private and public sectors.

The rapid and significant infrastructure development in the Campus became its cutting edge in hosting significant events such as the Regional State Colleges and Universities Athletic Association (SCUAA) in 2012 and 2014, Philippine Science Centrum (PSC's) Science Sparks in July 2012, and the Regional Science and Technology Week (RSTW) on September 16-23, 2013.

The First Innovation Center

In September 2012, under the leadership of Pres. Romero R. Quilang, the Food Innovation Center (FIC), the very first in Luzon and the flagship project of the Department of Science and Technology (DOST) Region 02 and the Cagayan State University, was formally launched. Known as one-stop-shop food research and Development Center, it aims to improve the Region's local food products to reach a sizeable share of local and national markets. From then on, CSU-DOST FIC reaped awards and recognitions because of its innovative products. In 2020, CSU-DOST FIC was awarded as the number 1 Food Innovator in the Country.

Early Accreditation Endeavors

Consistent with the goal of the University for higher SUC Leveling and to brace its programs for CHED recognition for Center of Excellence (COE) and Center of Development (COD), the Campus hurdled the reaccreditation of its program offerings which were downgraded due to a lapse in accreditation status. In August 2013, BS in Civil Engineering, BS in Electronics & Comm. Engineering, BS in Electrical Engineering, BS in Industrial Technology, BS in Biology, BS in Chemistry, BS in Mathematics, BS in Psychology, AB in Public Administration, BS in Environmental Science, AB in Economics pursued Level II Accreditation by the Accrediting Agency of Chartered Colleges and Universities in the Philippines (AACCUP). The Doctor of Veterinary Medicine, on the other hand, underwent a Preliminary Survey Visit (PSV).

At present, the Campus has six (6) Level III Accredited Programs, 18 Level II Accredited and the rest are scheduled for survey visit and higher-level accreditation. The continuing accreditation of academic programs strengthened the standard of excellence expected from CSU Carig.

Aside from AACCUP accreditation, the Campus also applied for a certificate of program compliance (COPC) by the Commission on Higher Education and Institutional Stability Assessment.

CSU Carig 2nd CEO

With the designation of Dr. Archimedes C. Articulo as the new CEO on June 9, 2014, the Campus continued and heightened its partnership with Local Government Units and other agencies with its belief that convergence with these institutions will open opportunities to the Cagayan State University Carig Campus to the fulfillment of its objectives along with the four-fold functions of the University.

The Partnership Among Local Resource Institutes (POLARIS) Program, an extension project advanced by the Cagayan State University Carig Campus, was adapted by the 2nd Regional Public Safety Battalion on August 8, 2014. The POLARIS Program is a platform for convergence, or pooling of resources and technical expertise, among the different sectors.

In his term, CSU Carig hosted the 2014 North Luzon Cluster Science and Technology Fair at the Red Eagle Gymnasium on September 1-5. In collaboration with the CSU and TAPI, the different DOST agencies in Region 1, 2, and CAR spearheaded the said activity, promoting the theme: "Philippines: A Science Nation Meeting Global Challenges."

On February 8-14, 2015, CSU hosted the National SCUAA, and the Campus sports facilities were used for some sports competitions, and rooms served as billeting areas.

With the theme "Inspire, Engage and Encourage," another monumental event was again hosted by Cagayan State University Carig Campus in partnership with the Department of Science and Technology and other line agencies on March 24, 2015, dubbed as "Building Science Nation Tour."

Significantly, during this year, the CSU-DOST Metal Center in Region, now named as the Metals and Engineering Innovation Center (MEIC), was initially established through a Memorandum of Agreement acted on January 22, 2015, between the DOST RO2 through its Regional Director, now the present CSU President, Dr. Urdujah A. Tejada, and CSU through President Quilang.

On May 4, 2016, the most awaited construction of a separate academic building for the College of Human Kinetics since its transfer from Andrews Campus to Carig Campus building for the College of Human Kinetics Academic building begun and was completed in 2017.

Transition Period: From Pres Quilang to Pres. Alvarado

After the end of the term of Pres. Quilang, on June 1, 2016, Dr. Lina Garan was designated as the Officer-In-Charge of the Campus. During this time, Carig Campus was heavily devastated by Super Typhoon Lawin (Haima) on October 19, 2016, leaving the Campus with billions worth of damage.

There is not much happening from June 2016 to the 1st week of November 2016 except for the reorganization of the Campus following the end of the term of Quilang and consequently the new appointment of the first woman President of CSU, President, Dr. Urdujah A. Tejada, now Urdujah Gaerlan Alvarado.

Continuing Quest for Excellence

On November 9, 2016, Dr. Arthur G. Ibañez was again designated as the CEO of Carig. Dr. Ibañez continued the massive physical developments – the improvements and rehabilitation of offices and structures of the different Colleges, landscaping of the Campus, and the completion of infrastructure projects.

Through the Office of the Civil Defense, the Campus received 76.8 M to rehabilitate its buildings, facilities equipment which were damaged by typhoon Lawin and Ompong (Mangkhu) in 2018. This paved way to the budget allocation for the repair and rehabilitation of the College of Industrial Technology Building and Workshop which now houses the MEIC and EMRDC, CSU-DOST FIC Building, CICS, ROCO, CVM, Rizal, CMS Old Building, CAS A Building, Gymnasium, Library, Administration Building, COEA Student Center, CENADCO, Kalayaan and Kaunlaran Dormitories, and the Campus Electrical Lines and Perimeter Lighting, and the

replacement of Local Area Network infrastructure for Campus Fiber Backbone and other land development and road networking projects. This also aided the procurement of various facilities and equipment for the laboratories and classrooms.

In 2019, in its celebration for its 10th anniversary as a CSU Satellite campus, CSU Carig launched its first-ever coffee table book, *"The Journey of CSU Carig 2009-2029"*, - a coffee table encapsulating the development of the Campus from 2009 to 2019 and Campus is envisioned to be in the next 10 years.

Significantly, the Campus' research undertakings were intensified, which led to the generation of funds to establish new centers in the Campus: The Metals and Engineering Innovations Center (MEIC) and the Electromobility Research and Development Center (EMRDC).

Metals and Engineering Innovations Center (MEIC)

Materializing the MOA signed in 2015 for the establishment of Metal Center, DOST Region 2 funded the purchase of several equipment for the Center under the agency's Grants-In-Aid (GIA) Program in 2017 and 2018.

After the ocular visit of DOST Secretary Fortunato Dela Peña and RD Engr. Sancho A. Mabborang to the University in 2019, CSU Carig was chosen to house the Metals and Engineering Innovations Center (MEIC). From Metal Center to Metals Engineering and Innovation Research and Development Center to finally, the Metals and Engineering Innovations Center (MEIC)– the Second Research and Development Center housed in CSU Carig Campus, the only one in the Region one of the 5 MEICs in the Country.

The MEIC had its significant breakthrough on December 22, 2020, with the virtual soft launching and memorandum of agreement signing ceremony between the University, through President Alvarado, and the DOST, through Secretary Fortunato Dela Peña.

Electromobility Research and Development Center (EMRDC)

As a result of the successful implementation of the DOST's Special Project titled *"e-Trike Deployment and Utilization Study"* and the Department of Energy (DOE) project, *"Demonstration of Fast Charging Station,"* DOST granted the establishment of the Electromobility Research and Development Center (eMRDC) – another knowledge center housed in the Campus and the first-ever Niche Center in the Region for R&D (NICER) awarded to CSU.

The Center is under the "Accelerated R&D Program for Capacity Building of Research and Development Institutions Industrial Competitiveness: NICER component of the DOST's Science for Change Program (S4CP). CSU is one of the 26 approved NICER programs in the Philippines based at the State Universities and Colleges.

The program aims to establish the Electromobility Research and Development Center supporting the e-Vehicle industry program for cost and energy efficiency.

Specifically, it will a) Design, develop, fabricate, assemble, and test the different parts of e-Trike; b) Design the electrical and electronics component of the e-Trike; and c) Determine the impacts of the e-trike conversion in Region 2 in terms of health, environment and the overall economic effect to the local industry and develop policies.

New Academic Offerings

In response to the emerging needs of the industry and to produce globally competitive graduates, in 2019, the Board of Regents approved the proposal of the Campus to offer new academic programs effective SY 2019-2020. These include the Bachelor of Science in Architecture, Bachelor of Science in Social Work, Bachelor of Library and Information Science, and Bachelor of Science in Information System. Various feasibility studies were also conducted for the proposed offering of Bachelor of Science in Criminology, Bachelor of Science in Food Technology, Bachelor of Science in Mechanical Engineering, and Master of Industrial Technology. On August 10, 2021, the CSU BoR sanctioned the opening of Master of Industrial Technology in the 1st Semester of SY 2021-2022

Carig Campus in the New Normal

The COVID-19 pandemic has taken a toll on the lives of every Filipino. However, despite this, the Campus administration managed to turn this pandemic into an opportunity to fast-track the infrastructure projects, land development, and road networks in the Campus – a more developed and well-equipped Campus ready to welcome and accommodate a larger number of students, employees, and visitors.

The CPAd Building C, CAS A Building, COEA A Building, Information and Communication Technologies (ICT) Center, CVM Academic Building, Laboratory Animal Facility, Campus Business Center, and the Campus Cafè and Wellness Center started its construction/rehabilitation in 2019 and others 2020 and are now nearing to its completion.

On January 20, 2021, in preparation for the 1st Virtual Convocation, the Campus inaugurated its iconic roundabout surrounded by Corinthian columns and capitals with the Philippine, ASEAN, CSU, Carig Campus, and the eight colleges flags. A light fountain at the Center and a 3-meter high Red Eagle monument on top, a symbolic representation of the Campus' unyielding strength, courage, and pride, complete the roundabout.

On February 20, 2021, the Campus held the Ground-breaking Ceremony of the New CSU 3-Storey Student Dormitory funded by Congressman Joseph "Jojo Pulsar" Lasam Lara. Other projects funded by Cong. Lara which were implemented in 2021 include the

The new normal also paved the way for shifting a traditional face-to-face teaching strategy to online platforms to address the Campus's academic function continuously. The Campus instituted support mechanisms for blended learning. Competitive activities were sponsored by the Campus with prizes ranging from tablets, prepaid Wi-Fi, and prepaid loads. The Campus also launched its first-ever YouTube account- the CSU Carig Campus and its tv program dubbed as "e-TV" or Eagle TV while strengthening its now well-established Facebook page.

Meanwhile, the College of Medicine was able to secure a 91 M budget for the College's expansion of carrying capacity sponsored by Senator Pia Cayetano. The budget includes allocating the construction of a new academic building, laboratory, a primary hospital, and the hiring of additional human resources.

Towards the end of 2020, the Campus conducted its first-ever Regional Research Conference via zoom - the 1st Regional Agriculture, Fisheries and Natural Resources, Engineering and Technology Virtual Research Conference (RAFNET 2020) with the theme, "Pursuing Research and Development Amidst Trying Times" on December 2-3, 2020.

The Red Eagle Calling for Community Service amidst COVID 19 pandemic

Following the declaration of President Rodrigo Roa Duterte of a state of calamity throughout the Philippines due to COVID-19 and the consequently the imposition of Enhanced Community Quarantine on March 16, 2020, the Campus mobilized its skeleton workforce for the production of face shields and distribution of different Personal Protective Equipment (PPE) for the frontliners. The Campus also deployed six e-trikes (4 in Tuguegarao City People's General Hospital (TCPGH) and 2 in Cagayan Valley Medical Center) to transport health workers during the first pronouncement of community quarantine last March 2020.

In support of the "Plant Plant Plant Program" of the Department of Agriculture, the Campus Extension, NSTP, and NGP Offices propagated and distributed seedlings among the adopted barangays of the Campus for them to start their backyard garden.

With the massive flooding caused by Typhoon Ulysses, the Campus mobilized the "We Unite" Project to extend services to the flood victims. From November 14 to December 30, 2020, the "We Unite" team led by the CEO distributed relief goods to 40 barangays in Cagayan. This is the most extensive relief operation conducted by the Campus. This initiative of CEO Ibañez was featured in ABS CBN TV Patrol Weekend on November 28, 2020. Under the Campus rehabilitation and recovery program for the Ulysses victims, the Campus was able to finance two beneficiaries for the housing project of the Archdiocese of Tuguegarao particularly, St. Joseph the Worker Baggao for its Project Salinong, a housing project for the displaced families of Barangay Taytay, Baggao, and Build Back Better Homes Project of the St. Vincent Ferrer Parish Priest of Cordova Amulung West with the aid of donations coming from various organizations and private individuals.

Moreover, as part of the Integrated Rural Community Development Extension Program, the Campus installed solar power facilities in Agta Community of Basao, another adopted barangay of the Campus.

Red Eagle Way Forward

CSU Carig decade of journey is a history of both shortcomings and achievements. It is a history that conditions its path as it envisions a "**Research Campus**", a Center of Excellence (COE) or Center of Development (COD) for its academic programs, and a "**Smart Campus**".

CSU Carig efforts will focus on both social and scientific researches and across all disciplines in support of the long-term vision of the Country – the Ambisyon 2040 for a *matatag, maginhawa at panatag na buhay*. It will endeavor to house more research and development centers funded by the government and non-governmental organizations.

To become COE or COD, the Campus will focus its efforts on realizing the four-fold functions of the University and subject all academic programs for continuous accreditation.

With the rapid technological development in the 4.0 era and as the "new normal" demands for zero contact policy as part of the ease of doing business, paperless and cashless transactions, the Campus aims to shift to an era of digitalization and all its support services and transactions through the adaption of electronic governance (E-governance) models: the G2G (Government to Government), G2C (Government to Citizen), G2B (Government to Business), and G2E (Government to Employees). To realize this, a Fiber-Optic Backbone will be installed in the Campus, and a pool of IT experts from the CICS will upgrade the existing Campus Management information system and devise new systems for the complete automation of services and transactions of the Campus with its direct clienteles, partners, other government offices and among the employees.

The Campus will also pursue the institutionalization of distance learning, and in doing so, it will invest in the development of a learning management system and the procurement of other available online platforms in the market that will suit the needs of the students and faculty.

With the Campus's completed and ongoing infrastructure development from its academic buildings, laboratories, facilities and amenities, land development, and road networks, CSU Carig shall be viewed as the Center of Infrastructure development among all the CSU Campuses and at par with the universities here and abroad. With these, CSU Carig Campus is more than ready to welcome all the students who wish to study here. Its proximity to the Tuguegarao City proper (approximately 5.3 km from the Andrews campus) and being at the regional Center makes this Campus the first preference for the youth to access low-cost but quality education coupled with the highest standards and principles of management.

CSU Carig remains committed to its mission of serving students and society. It will continue to soar high like an EAGLE. It will **Evolve, Ascend, Gear Up, Lead and Endure** the test of times. It will thrive and reach greater heights no matter what the future might bring.



AD OFFICE
CAGAYAN STATE UNIVERSITY
CARIG CAMPUS

CSU CARIG CAMPUS RESEARCH DEVELOPMENT AND EXTENSION AGENDA 2023-2028

A. Niche Programs

The Cagayan State University-Carig Campus partners with the government in attaining mandates geared toward economic growth and development with the prime end of enabling every Filipino to enjoy a strongly rooted, comfortable and secure life. Hence, it shall adopt banner programs which are consistent with its manpower capabilities. This includes the following:

- Industry, Engineering, Emerging Technology
- Food Innovation,
- Animal and Human Health & Wellness,
- Environment, Climate Change and Disaster Risk Reduction Management
- Governance
- Socioeconomics

The campus research development and extension initiatives will center around the following niches.

1. Climate Change, Environmental Management and Risk Reduction

This research and extension agenda champions a multidisciplinary approach aimed at generating new knowledge to address pressing environmental challenges stemming from a changing climate. Through bolstered mitigation and adaptation strategies, our focus extends to proactively tackle these issues. Within the programs in the campus, a central emphasis lies in fortifying the province's disaster risk management. Our research and extension endeavors concentrate on comprehensive studies and projects spanning disaster prevention, mitigation, preparedness, recovery, and rehabilitation. By leveraging these research and extension efforts, it aims to contribute significantly to building resilient communities and safeguarding against environmental adversities.

2. Education Studies

This research and extension agenda is dedicated to exploring and enhancing various dimensions of education. This includes studies in Curriculum and Instruction, focusing on innovative curriculum design and teaching methodologies. It also encompasses Assessment and Evaluation of Learning and Teaching, aiming to develop effective strategies and tools for evaluating educational outcomes. The role and impact of Educational Technology are critically examined to understand its influence on modern teaching and learning processes. Additionally, the agenda includes Tracer Studies, which involve longitudinal research tracking the long-term effectiveness of educational programs and the subsequent achievements of alumni. This research and extension agenda is designed to be broad, related studies that contribute to a comprehensive understanding of education systems and methodologies.

3. Culture and Arts

The Culture and Arts research and extension agenda is an exploration into the region's rich cultural heritage and artistic expressions. It involves the establishment of a Center for Indigenous Studies, dedicated to the preservation and study of indigenous

cultures. Research and extension areas include traditional Healing Practices, an Analysis of Ibanag Prayers, and the Documentation and Description of local languages, particularly those at risk of disappearing. This agenda also focuses on the Documentation of Cultural Practices and Traditions in the region, examining their historical and contemporary relevance. Studies on Cultural and Political Issues explore the interplay between cultural identity and political dynamics. Indigenous Knowledge Management Studies, along with the Documentation of Indigenous Dances and other Indigenous Knowledge Systems and Practices (IKSPs), are crucial parts of this agenda. This research and extension area is adaptable and inclusive, aiming to cover a broad spectrum of studies and projects related to culture and the arts, highlighting the unique cultural identity of the region.

4. Engineering, Industry and Emerging Technologies

This research and extension agenda is dedicated to the design, innovation, and fabrication of industrial equipment and engineered products with the intent of their commercialization. In this context, industry encapsulates activities encompassing the collection and processing of raw materials, ultimately producing economic goods and services for productive or profit-driven enterprises. Engineering, on the other hand, revolves around the application of scientific principles to effectively convert natural resources for the benefit of humanity and organizations. It emphasizes the safe, efficient, and productive utilization of resources. Additionally, Emerging Technology represents the ongoing advancement of existing technologies, systems, or practices. Such technology addresses some of society's biggest challenges and helps stakeholders to be more innovative, efficient, and productive.

5. Food Safety and Security

This research and extension agenda aims to address sustainable food security and safety which directly aligns with the critical needs of Cagayan and the broader context of a country prone to natural calamities. This agenda is firmly grounded in the Sustainable Development Goals, specifically targeting No Poverty (SDG 1) and Zero Hunger (SDG 2). Cagayan being a major food producer and considering the country's vulnerability to natural calamities and disasters, ensuring people to have available, adequate, affordable and safe food is important. Research and extension areas under this niche will encompass enhancing and innovating food products and processes along with the improvement of food shelf life without compromising its quality and safety. The research and extension program shall also concentrate on the development of natural products, nutritious food for disaster relief, as well as value added products.

6. Human Health and Wellness

This research and extension agenda aims to enhance healthcare and promote well-being in the region. It encompasses the establishment of pivotal facilities such as the Biology and Biotechnology Regional Laboratory and the CSU Clinical Laboratory and Wellness Center. This agenda also includes conducting feasibility studies for the development of a school-based Clinical Laboratory, OPD Clinics, and a Pharmacy. Additionally, it focuses on extensive research and extension activities into the prevalence and prevention of lifestyle-related diseases, including mental health, among various groups like college students, school employees, and regional center employees. The agenda further extends into sports and athletic health, with programs dedicated to high-performance athlete development, sports injury prevention and rehabilitation, youth sports talent identification and training, psychological skills training for athletes and coaches, and exercise interventions for older adults. Moreover, competency and skills enhancement by analyzing the gaps in producing quality medical graduates to deliver quality healthcare. This comprehensive approach reflects a strong commitment to advancing health and wellness through research and extension, facility development, and targeted health programs.

7. Information and Communication Technologies and Artificial Intelligence

This agenda will lead the region in establishing ICT and AI centers, aiming to empower communities through digital technologies while addressing challenges like privacy and cybersecurity. It seeks to bring together academic leaders, researchers and developers, and extension implementers in the fields of ICT and sustainable development to show how digital technologies empower lots of people in the whole region by providing access to education, healthcare, banking, business, entertainment and government services. AI, performing human-like tasks, is applied in areas like medical diagnosis and robotics. It also envisions sustainable projects integrating ICT and AI into daily activities, requiring collaborative efforts and financial support for full realization.

8. Livestock

This research and extension agenda aims to pinpoint the key research and extension areas that will aid in the advancement of environmentally sustainable livestock and poultry production, enhance animal welfare and health, decrease greenhouse gas emissions, and ameliorate the economic circumstances of small-scale farmers in the province of Cagayan and the entire Region 2.

9. Socio-economics

This agenda aims to strategically prioritize research and extension endeavors that tangibly enhance the well-being of individuals within our campus community and beyond. By focusing on initiatives that directly impact socioeconomic conditions, it aspires to foster positive changes in living standards, diminishes inequalities, and elevates overall quality of life. The goal is to champion research and extension that actively contributes to advancing societal well-being, empowering communities, and fostering sustainable progress.

10. Sustainable and Renewable Energy

This research and extension agenda is a comprehensive initiative dedicated to the exploration and development of sustainable and renewable energy sources. Its primary objective is to address the current energy demands of the community while upholding the integrity of the natural resources and minimizing adverse environmental effects. In alignment with the Sustainable Development Goal 7, which aims for universal access to affordable, reliable, and modern energy. This agenda strives to foster solutions that balance societal needs with environmental preservation.

The multifaceted approach involves rigorous exploration and advancement of cutting-edge technologies harnessing resources such as solar, wind, hydro, geothermal, and biomass energy. By emphasizing these renewable sources, the agenda aims to gradually reduce dependence on the finite fossil fuel reserves. Through innovation and strategic implementation, this initiative seeks to create a more sustainable and resilient energy landscape, ensuring a brighter and cleaner future for generations.

11. Governance

This research and extension agenda aims to set the normative standards of development. It fosters participation, ensures transparency, demands accountability, promotes efficiency, and upholds the rule of law in economic, political and administrative institutions and processes. It is a hallmark of political maturity but also a requisite for growth and poverty reduction.

B. Research Centers

1. Food Innovation Center

The CSU - DOST 02 Food Innovation Center, serves as a hub for innovations, and support services for the development of processed foods in Region II. It is envisioned that through this center, innovative technologies, relevant support services, technical expertise, necessary infrastructures and facilities will be more accessible for MSMEs in the urban centers and countryside for a more effective technology application, deployment (transfer), and commercialization for sustained economic growth and productivity.

2. Electromobility Research and Development Center (EMRDC)

Cagayan State University (CSU)-Carig Campus is trusted for the establishment of our country's first Electromobility Research and Development Center (eMRDC) under the "Accelerated R&D Program for Capacity Building of Research and Development Institutions Industrial Competitiveness: NICER component of the DOST's Science for Change Program (S4CP)."

Electromobility Research and Development (R&D) Center is set to specialize on the local manufacturing of e-trikes and CSU is tasked on its design, development of different parts, and assembly.

3. Metals Engineering and Innovation Center (Meic)

The Metal Innovation Center (MEIC), a joint project of the Cagayan State University and the Department of Science and Technology which aims to provide the metals and engineering industry in the region with innovative technical services and equipment for food processing to improve quality of education and the capabilities of stakeholder and clients in the metals and related sectors.

4. ANIMAL RESEARCH FACILITY

The Animal Research Facility aims to encourage the humane treatment of animals used in biomedical and behavioral research and testing with the fundamental objective of providing specifications that will improve animal health and efficiency in the pursuit of biological information that is applicable to humans and animals

C. Goals

To become a nationally recognized seat of research for development centers as well as research laboratories and service facilities to produce high-value food, energy sources, technical innovations, engineered products, alternative medicines, delivery of laboratory services, address environmental concerns, and address socio-economic and governance issues for global competitiveness.

To promote research-based innovations and knowledge through community engagement as well as provision of community-based and gender sensitive services in uplifting the socio-economic, political, cultural aspects of both women and men in the rural and urban communities.

D. Objectives

Research Objectives:

1. To develop innovative food and conduct a value chain for existing food products to ensure food security.
2. To design, innovate, and fabricate industrial equipment and engineered products for commercialization.
3. To develop cost efficient packaging material for food and non-food products through the Regional Industrial Research and Development Service Centre
4. To introduce Innovative Electronic Vehicles for energy and environmental conservation.
5. To develop natural herb remedies with fewer side effects, well-tolerated by the body and less expensive than synthetic drugs produced by pharmaceutical companies.
6. To be a laboratory service provider in the conduct of biotechnology and animal health research in the university and other research communities in Region 02.
7. To explore researchable areas along industry, energy, emerging technologies, environment, health, biotechnology, governance, socio-economics, culture and arts and spearhead in the conduct of such.
8. To partner with stakeholders for the growth and development of metals, black smithery, food and other sectoral industries.
9. To develop and publish IEC materials.

Extension Objectives:

1. Conceptualize and package proposals for implementation consistent with mandated and priority programs.
2. Establish linkages with stakeholders to bind partnership in the implementation of program/projects.
3. Deliver services through appropriate extension modalities for empowerment and socio-economic development of target men and women.
4. Generate self-employment opportunities as source of income for the unemployed housewives and underemployed men to supplement family income.
5. Initiate Organization for Men and Women or both that would seek to empower themselves and become responsible and productive members of their respective family and community.
6. Establish viable Demonstration Projects with positive ROI.
7. Extend technical assistance and advisory services to Adopters.
8. Develop innovative extension modalities for replication.
9. Develop social awareness and responsibility among faculty and students.

E. Challenges

1. Slow proliferation of SMEs in the region for the rural poor.
2. Limited engineering research resources and non-existence of Research and Development centers in the region.
3. Dependence on traditional processes and resistance to change.
4. Rising cost of existing products, equipment, machineries, implements, cooking fuel and energy.
5. High cost of health care impacting the poor and marginalized families and increasing risk of spreading resistant microorganisms.

6. Increasing demand of laboratory animals as well as animal health services and absence of animal laboratory research facility in the region.
7. Noise and air pollution.
8. Low appreciation and limited innovation of local products.

F. Plan Strategy

1. Benchmark on industries and top local universities and abroad for their technology and best practices
 - a. Networking and collaboration with local and international organizations
 - b. Laboratory upgrading and facility enhancement
2. Capacity and capability development on faculty members and researchers.
 - a. Seminars, trainings, industry immersion
 - b. Verticalized education
3. Strengthen collaborations, partnerships, and linkages to various stakeholders.
4. Participatory planning to strengthen the involvement of the stakeholders in the planning along the ff:
 - Inception
 - Planning and Replanning
 - Implementation
 - Monitoring
 - Evaluation

G. Partner Agencies

1. Department of Science and Technology
 - a. DOST (PCHRD, PCIEERD, PCAARD, MIRDC)
2. Department of Information and Communications Technology (DICT)
3. Department of Agriculture (DA)
4. Commission on Higher Education (CHED) and SUCs
5. Department of Social Welfare and Development (DSWD)
6. Department of Public Works and Highways (DPWH)
7. Department of Tourism (DoT)
8. Department of Transportation and Communications (DOTR)
9. Local Government Units
10. Cagayan Economic Zone Authority (CEZA)
11. Department of Education (DepEd)
12. National Economic Development Authority (NEDA)
13. Office of Civil Defense (OCD)
14. Police Regional Office 02 (PRO-02)
15. Department of Interior and Local Government (DILG)
16. Philippine National Police (PNP)
17. Department of Environment and Natural Resources (DENR)
18. Non-Government Organizations

Table 1. Research and Development Agenda

RDE NICHE PROGRAM	Program/Project/Study	TIMEFRAME / DELIVERY UNIT						RESEARCH DELIVERABLES (6Ps)		RESEARCH OUTPUT UTILIZATION											
										EXTENSION						PROTECTION, TECHNOLOGY TRANSFER AND INCUBATION / COMMERCIALIZATION					
		2023	2024	2025	2026	2027	2028	Deliverable	Quantity	2023	2024	2025	2026	2027	2028	2023	2024	2025	2026	2027	2028
Food Safety and Security	Establishment of Sensory Evaluation and Shelf-Life Testing Laboratory																				
	Food Product Development and Acceptability Studies	CIT	CIT					A,B, C, E, F	5				LGU	LGU	LGU			V	W	X	Y
	Food Shelf-life and Commercialization Studies			CIT	CIT			A,B, C, E, F	5											V	W
	Value Adding			CIT	CIT			A,B, C, E, F	5					NGO	NGO					V	W

RDE NICHE PROGRAM	Program/Project/Study	TIMEFRAME / DELIVERY UNIT						RESEARCH DELIVERABLES (6Ps)		RESEARCH OUTPUT UTILIZATION											
										EXTENSION						PROTECTION, TECHNOLOGY TRANSFER AND INCUBATION / COMMERCIALIZATION					
		2023	2024	2025	2026	2027	2028	Deliverable	Quantity	2023	2024	2025	2026	2027	2028	2023	2024	2025	2026	2027	2028
	Food Safety Practices	CIT	CIT					A,B,C ,D,E, F	6				LGU	LGU	LGU			V			
	Alternative Meat Source Studies			CIT	CIT	CIT	CIT	A,B, C, E, F	5						LGU, NGO						V
	Indigenous Food Products and Practices			CIT	CIT	CIT	CIT	A,B, C,D, E, F	6												V
	Food Preservation and Engineering	COEA	COE A					A,B, D,E,F	5				LGU, NGO	LGU, NGO	LGU, NGO			V	W	X	Y
Climate Change, Environmental Management																					



RDE NICHE PROGRAM	Program/Project/Study	TIMEFRAME / DELIVERY UNIT						RESEARCH DELIVERABLES (6Ps)		RESEARCH OUTPUT UTILIZATION											
										EXTENSION						PROTECTION, TECHNOLOGY TRANSFER AND INCUBATION / COMMERCIALIZATION					
		2023	2024	2025	2026	2027	2028	Deliverable	Quantity	2023	2024	2025	2026	2027	2028	2023	2024	2025	2026	2027	2028
and Risk Reduction																					
	Resiliency, Climate Action and Disaster Management, Industry, Innovation and Infrastructure																				
	-Design and development of interlocking masonry																				
	-Design and development of precast wall		COE A	COE A				A, B, C,E	4						LGU, NGO	LGU, NGO			V	W	X
	-Design and development of ivatan house																				
	Proposed Solid Waste Recycling Center:	COE A	COE A	COE A	CO EA	CO EA	CO EA														

RDE NICHE PROGRAM	Program/Project/Study	TIMEFRAME / DELIVERY UNIT						RESEARCH DELIVERABLES (6Ps)		RESEARCH OUTPUT UTILIZATION											
										EXTENSION						PROTECTION, TECHNOLOGY TRANSFER AND INCUBATION / COMMERCIALIZATION					
		2023	2024	2025	2026	2027	2028	Deliverable	Quantity	2023	2024	2025	2026	2027	2028	2023	2024	2025	2026	2027	2028
	-Production of decorative Paver from solid waste		COE A	COE A				A,B,C , E	4					GO, NGO	GO, NGO				V	W	X
	-Production of hollow blocks from clam shells			COE A	CO EA			A,B,C , E	4						GO, NGO					V	W
Human Health and Wellness																					
	Establishment of Biology and Biotechnology Regional Laboratory																				
	Establishment of CSU OPD Clinic, Clinical Laboratory, School-based Pharmacy and Wellness Center		COM	COM	COM	COM	COM	A, C, F	3						LGU, GO, NGO	LGU, GO, NGO					

RDE NICHE PROGRAM	Program/Project/Study	TIMEFRAME / DELIVERY UNIT						RESEARCH DELIVERABLES (6Ps)		RESEARCH OUTPUT UTILIZATION											
										EXTENSION						PROTECTION, TECHNOLOGY TRANSFER AND INCUBATION / COMMERCIALIZATION					
		2023	2024	2025	2026	2027	2028	Deliverable	Quantity	2023	2024	2025	2026	2027	2028	2023	2024	2025	2026	2027	2028
	Lifestyle-related Diseases (Non communicable Diseases including Mental Health) Prevention Program (on institutions and communities	COM	COM	COM				A, C, F	3			GO, NGO	GO,NGO	GO, NGO	GO,N GO						
	Competency and Skills Enhancement of Medical Graduates (a cause and effect analysis)	COM	COM	COM				A, C, F	3			GO, NGO	GO,NGO	GO, NGO	GO,N GO						
	Analysis of the Radiographic Findings of the 2022 Active TB Case Finding in Region 2		COM					A, C, D, F	4				GO, NGO	GO, NGO	GO, NGO			V			
	High-performance Athlete	CHK	CHK	CHK	CHK				4	DepEd, LGUS	DepEd, LGUS	DepEd, LGUS	DepEd, LGUS				V				

RDE NICHE PROGRAM	Program/Project/Study	TIMEFRAME / DELIVERY UNIT						RESEARCH DELIVERABLES (6Ps)		RESEARCH OUTPUT UTILIZATION											
										EXTENSION						PROTECTION, TECHNOLOGY TRANSFER AND INCUBATION / COMMERCIALIZATION					
		2023	2024	2025	2026	2027	2028	Deliverable	Quantity	2023	2024	2025	2026	2027	2028	2023	2024	2025	2026	2027	2028
	Development Program							B, C, D, F				LGUS									
	Sports Injury Prevention and Rehabilitation Research	CHK	CHK	CHK	CHK			B, C, D, F	4	DepEd, LGUS	DepEd, LGUS	DepEd, LGUS	DepEd, LGUS					V			
	Youth Sports Talent Identification and Training Program	CHK			CHK			B, C	2	DepEd, LGUS	DepEd, LGUS	DepEd, LGUS	DepEd, LGUS							V	
	Psychological Skills Training for Athletes and Coaches		CHK		CHK			B, C, D, F	4		DepEd, LGUS		DepEd, LGUS							V	
	Exercise Interventions for Older Adults			CHK				B,C,D ,F	4				LGU, NGO						V		

RDE NICHE PROGRAM	Program/Project/Study	TIMEFRAME / DELIVERY UNIT						RESEARCH DELIVERABLES (6Ps)		RESEARCH OUTPUT UTILIZATION						PROTECTION, TECHNOLOGY TRANSFER AND INCUBATION / COMMERCIALIZATION					
										EXTENSION											
		2023	2024	2025	2026	2027	2028	Deliverable	Quantity	2023	2024	2025	2026	2027	2028	2023	2024	2025	2026	2027	2028
Sustainable and Renewable Energy																					
	Proposed Establishment of Electronic Systems Development Center			COE A	CO EA	CO EA	CO EA														
	Affordable and Clean Energy																				
	-Design and development of hydropower harvester for SWIPs	COE A	COE A					A,C,E ,F	4				GO, NGO	GO, NGO	GO, NGO			V	W	X	Y
	-Design and development of pizelectric power generation		COE A					A,C,E	3				GO, NGO	GO, NGO	GO, NGO			V	W	X	Y
	-Production of Agri-waste to Energy			COE A	CO EA			A, B, C, E	4						LGU, GO, NGO					V	

RDE NICHE PROGRAM	Program/Project/Study	TIMEFRAME / DELIVERY UNIT						RESEARCH DELIVERABLES (6Ps)		RESEARCH OUTPUT UTILIZATION											
										EXTENSION						PROTECTION, TECHNOLOGY TRANSFER AND INCUBATION / COMMERCIALIZATION					
		2023	2024	2025	2026	2027	2028	Deliverable	Quantity	2023	2024	2025	2026	2027	2028	2023	2024	2025	2026	2027	2028
Socio-Economics																					
	Impact Assessment of developed products and Technologies		CNS M	CNS M	CN SM			D,F	2											V	
	Micro, Small and Medium Enterprises Studies		CHS S	CHS S	CH SS			D,F	2											V	
	Financial Literacy Studies	CHS S	CHS S		CH SS			D,F	2											V	
	Establishment of Center of Public Administration and Governance																				
	Ethics and Accountability in Public Service, Citizen Engagement	CPA D	CPA D					A, C,D	3	LGU, GO	LGU, GO							V			
	Local Governance Administration	CPA D		CH SS				A, C,D,F	4	LGU, GO							V				

RDE NICHE PROGRAM	Program/Project/Study	TIMEFRAME / DELIVERY UNIT						RESEARCH DELIVERABLES (6Ps)		RESEARCH OUTPUT UTILIZATION											
										EXTENSION						PROTECTION, TECHNOLOGY TRANSFER AND INCUBATION / COMMERCIALIZATION					
		2023	2024	2025	2026	2027	2028	Deliverable	Quantity	2023	2024	2025	2026	2027	2028	2023	2024	2025	2026	2027	2028
	and Local Governance																				
	Application of ICT in the Local Governance in the Public Sector			CPA D	CP AD			A, C,D,F	4			LGU	LGU							V	
	Public Enterprise Management and Social Entrepreneurship			CPA D	CP AD			A, C,D,F	4			LGU, GO, NGO	LGU, GO, NGO				V				
	Public Policy and Programs Administration and Policy		CPA D	CPA D/ CHS S	CP AD /C HS S			A, C,D,F	4		LGU, GO	LGU, GO	LGU, GO				V		V		
	Human Resources Management and Capacity Building			CPA D	CP AD			A, C,D,F	4			LGU, GO, NGO	LGU, GO, NGO						V		
	Public Administration, Gender and Development		CPA D	CPA D	CP AD			A, C,D,F	4		LGU, GO, NGO	LGU, GO, NGO	LGU, GO, NGO				V		V		

RDE NICHE PROGRAM	Program/Project/Study	TIMEFRAME / DELIVERY UNIT						RESEARCH DELIVERABLES (6Ps)		RESEARCH OUTPUT UTILIZATION											
										EXTENSION						PROTECTION, TECHNOLOGY TRANSFER AND INCUBATION / COMMERCIALIZATION					
		2023	2024	2025	2026	2027	2028	Deliverable	Quantity	2023	2024	2025	2026	2027	2028	2023	2024	2025	2026	2027	2028
	Public Budgeting and Fiscal Administration					CP AD		A, C,D,F	4					LGU, GO							V
	Partnership of Academe, National, and Local Governments Linkages			CPA D				A, C,D,F	4			LGU, GO							V		
	Evaluative Studies on Social Welfare Programs and services (senior Citizen, PWDs, Children, 4Ps and other vulnerable sectors)	CPA D	CPA D					A, C,D,F	4	LGU, GO, NGO	LGU, GO, NGO							V			
	Audience and Media Research			CHS S	CH SS					LGU, GO, NGO	LGU, GO, NGO										
Education Studies																					



RDE NICHE PROGRAM	Program/Project/Study	TIMEFRAME / DELIVERY UNIT						RESEARCH DELIVERABLES (6Ps)		RESEARCH OUTPUT UTILIZATION											
										EXTENSION						PROTECTION, TECHNOLOGY TRANSFER AND INCUBATION / COMMERCIALIZATION					
		2023	2024	2025	2026	2027	2028	Deliverable	Quantity	2023	2024	2025	2026	2027	2028	2023	2024	2025	2026	2027	2028
	Curriculum and Instruction Studies		CHK /CH SS	CHK /CH SS	CH K/ CH SS	CH K/ CH SS	CH K/ CH SS	D,F	3	Public and Private SUCs	Public and Private SUCs	Public and Private SUCs	Public and Private SUCs	Public and Private SUCs					V		
	Assessment and Evaluation of Learning and Teaching		CHK /CH SS	CHK /CH SS	CH K/ CH SS	CH K/ CH SS	CH K/ CH SS	D,E,F	3	Public and Private SUCs	Public and Private SUCs	Public and Private SUCs	Public and Private SUCs	Public and Private SUCs							
	Tracer Studies and Student Profiling	All Colleges	All Colleges	All Colleges	All Colleges	All Colleges	All Colleges	D,F	8	Employers, Stakeholders	Employers, Stakeholders	Employers, Stakeholders	Employers, Stakeholders	Employers, Stakeholders							
	Educational Technology		CHK /CH SS/CICS	CHK /CH SS/CICS	CH K/ CH SS/ CI CS	CH K/ CH SS/ CI CS	CH K/ CH SS/ CI CS	D,E,F	2	Public and Private SUCs	Public and Private SUCs	Public and Private SUCs	Public and Private SUCs	Public and Private SUCs							
Culture and Arts																					
	Establishment of Center for Indigenous Studies	X	X	X	X	X	X														

RDE NICHE PROGRAM	Program/Project/Study	TIMEFRAME / DELIVERY UNIT						RESEARCH DELIVERABLES (6Ps)		RESEARCH OUTPUT UTILIZATION											
										EXTENSION						PROTECTION, TECHNOLOGY TRANSFER AND INCUBATION / COMMERCIALIZATION					
		2023	2024	2025	2026	2027	2028	Deliverable	Quantity	2023	2024	2025	2026	2027	2028	2023	2024	2025	2026	2027	2028
	Healing Practices		CHS S	CHS S	CH SS			F	1										V		
	Analysis of Ibanag Prayers	CHS S/CH K	CHS S/CH HK					F	1									V			
	Language Documentation and Description		CHS S	CHS S		CH SS		F	1												V
	Documentation of Cultural Practices and Tradition in the region			CHS S/C HK	CH SS/ CH K	CH SS/ CH K		F	1										V		
	Cultural and Political Issues			CHS S	CH SS	CH SS		D,F	2												V
	Indigenous Knowledge Management Studies			CHS S/C HK	CH SS/ CH K			D,F	2										V		
	Indigenous Dances, IKSPs Documentation Studies	CHS S/CH K	CHS S/C HK	CHS S/C HK				B,F	2									V			
Engineering, Industry and																					

RDE NICHE PROGRAM	Program/Project/Study	TIMEFRAME / DELIVERY UNIT						RESEARCH DELIVERABLES (6Ps)		RESEARCH OUTPUT UTILIZATION						PROTECTION, TECHNOLOGY TRANSFER AND INCUBATION / COMMERCIALIZATION					
										EXTENSION											
		2023	2024	2025	2026	2027	2028	Deliverable	Quantity	2023	2024	2025	2026	2027	2028	2023	2024	2025	2026	2027	2028
Emerging Technologies																					
	Electromobility Research and Development Center (EMRDC)																				
	-Electromobility Production Plant for Electric Tricycle	COE A	COE A	COE A	CO EA	CO EA	CO EA														
	-Development of electric tricycles (localization of different parts)	COE A	COE A					A,B,F	3				GO, NGO	GO, NGO	GO, NGO			V	W	X	Y
	-Development of four wheeled Vehicles					CO EA	CO EA	CO EA	A,B,E	3					GO, NGO						V
	-Conversion of conventional to electric bus		COE A	COE A				A, C,D,E	4			GO, NGO	GO,N GO					V			
	Metals Engineering and Innovation Center (MEIC)																				

RDE NICHE PROGRAM	Program/Project/Study	TIMEFRAME / DELIVERY UNIT						RESEARCH DELIVERABLES (6Ps)		RESEARCH OUTPUT UTILIZATION											
										EXTENSION						PROTECTION, TECHNOLOGY TRANSFER AND INCUBATION / COMMERCIALIZATION					
		2023	2024	2025	2026	2027	2028	Deliverable	Quantity	2023	2024	2025	2026	2027	2028	2023	2024	2025	2026	2027	2028
	-Establishment and Upgrading of Metals Engineering and Innovation Research Laboratory		COE A	COE A	CO EA	CO EA															
	-Design, Development and fabrication Food Processing Equipment	COE A	COE A	COE A				A,B,C ,E	4				GO, NGO	GO, NGO					V	W	X
	-Design, development, and fabrication of agricultural machineries and equipment		COE A	COE A				A,C,E ,F	4					GO, NGO	GO, NGO				V	W	Y
	Smart Agriculture Systems																				
	Design, development, and fabrication of recycling equipment		CIT	CIT				A,B,E	4				LGU, GO, NGO	LGU, GO, NGO	LGU, GO, NGO				V	W	Y

RDE NICHE PROGRAM	Program/Project/Study	TIMEFRAME / DELIVERY UNIT						RESEARCH DELIVERABLES (6Ps)		RESEARCH OUTPUT UTILIZATION											
										EXTENSION						PROTECTION, TECHNOLOGY TRANSFER AND INCUBATION / COMMERCIALIZATION					
		2023	2024	2025	2026	2027	2028	Deliverable	Quantity	2023	2024	2025	2026	2027	2028	2023	2024	2025	2026	2027	2028
	(Paver, Briquetting, etc.)																				
	Empowering Ethnic Culture through Tailored Garments		CIT	CIT				A,B,C ,E,F	5		LGU, GO, NGO	LGU, GO, NGO	LGU, GO, NGO	LGU, GO, NGO	LGU, GO, NGO				V	W	Y
	Proposed Solid Waste Recycling Center					CN SM															
	Testing of solid Waste-Based Decorative Pavers	CNS M																			
	Production of Solid Waste-based Decorative Pavers			CNS M	CN SM																
	Testing of Clam Shell-based Concrete Hollow Block	CNS M	CNS M																		
	Production of Clam Shell-based Concrete Hollow Blocks			CNS M	CN SM																

RDE NICHE PROGRAM	Program/Project/Study	TIMEFRAME / DELIVERY UNIT						RESEARCH DELIVERABLES (6Ps)		RESEARCH OUTPUT UTILIZATION											
										EXTENSION						PROTECTION, TECHNOLOGY TRANSFER AND INCUBATION / COMMERCIALIZATION					
		2023	2024	2025	2026	2027	2028	Deliverable	Quantity	2023	2024	2025	2026	2027	2028	2023	2024	2025	2026	2027	2028
Information and Communication Technologies and Artificial Intelligence																					
	Proposed Information and Communications Technology and Artificial Intelligence Center		CICS	CICS	CICS	CICS	CICS														
	Computer Science, Information Technology and Information Systems Programs, Mobile App Development, IOT, AI, E-commerce		CICS	CICS	CICS			A,C, D,E,F	5				LGU, GO, NGO	LGU, GO, NGO	LGU, GO, NGO				V	W	X
	Mobile App development (smart city) , Internet of Things and		CICS	CICS	CICS			A,C, D,E,F					LGU, GO, NGO	LGU, GO, NGO	LGU, GO, NGO				V	W	X

RDE NICHE PROGRAM	Program/Project/Study	TIMEFRAME / DELIVERY UNIT						RESEARCH DELIVERABLES (6Ps)		RESEARCH OUTPUT UTILIZATION											
										EXTENSION						PROTECTION, TECHNOLOGY TRANSFER AND INCUBATION / COMMERCIALIZATION					
		2023	2024	2025	2026	2027	2028	Deliverable	Quantity	2023	2024	2025	2026	2027	2028	2023	2024	2025	2026	2027	2028
	Artificial Intelligence								5												
	Establishment of Library Information Science Center			CICS	CICS	CICS	CICS	A,C,D	3					LGU, GO, NGO	LGU, GO, NGO						V
	Establishment of Multimedia Art Program Photography/Film Making and Advertisement Center			CICS	CICS	CICS	CICS	A,C,D,E,F	5					LGU, GO, NGO	LGU, GO, NGO						V
	Utilization and Impact of - Digital Communication Technologies and Policy Formulation			CICS	CICS	CICS	CICS	D,F	2												V
	Design, Development and Evaluation			CICS	CICS	CICS	CICS	D,F	2												V

RDE NICHE PROGRAM	Program/Project/Study	TIMEFRAME / DELIVERY UNIT						RESEARCH DELIVERABLES (6Ps)		RESEARCH OUTPUT UTILIZATION											
										EXTENSION						PROTECTION, TECHNOLOGY TRANSFER AND INCUBATION / COMMERCIALIZATION					
		2023	2024	2025	2026	2027	2028	Deliverable	Quantity	2023	2024	2025	2026	2027	2028	2023	2024	2025	2026	2027	2028
	of Multimedia Contents																				
Livestock																					
	Establishment of Poultry production center		CVM																		
				CVM	CV M	CV M	CV M														
	Poultry and egg production related research		CVM	CVM				E	1										V		
	Development of Feed additives as growth promotant		CVM					A,E,F	3		LGU, GO, NGO							V			
	Rabbit Production related researches	CVM	CVM	CVM				C,E,F	3									V			
	Performance Indicators of	CVM	CVM	CVM				E,F	2									V			

RDE NICHE PROGRAM	Program/Project/Study	TIMEFRAME / DELIVERY UNIT						RESEARCH DELIVERABLES (6Ps)		RESEARCH OUTPUT UTILIZATION											
										EXTENSION						PROTECTION, TECHNOLOGY TRANSFER AND INCUBATION / COMMERCIALIZATION					
		2023	2024	2025	2026	2027	2028	Deliverable	Quantity	2023	2024	2025	2026	2027	2028	2023	2024	2025	2026	2027	2028
	Rabbits in Cagayan																				
	Development of innovative Low-cost Food Products from Rabbits	CVM, CIT	CVM, CIT	CVM, CIT				A,C,F	3	LGU, GO, NGO	LGU, GO, NGO	LGU, GO, NGO					V				
	Extending the Commercial Value of Rabbit through Inedible By-Products Utilization	CVM, CIT	CVM, CIT	CVM, CIT				A,C,E ,F	4	LGU, GO, NGO	LGU, GO, NGO	LGU, GO, NGO					V	W	X	Y	
	Zoonotic disease related researches		CVM, COM					F	1								V				
	Establishment of training center for		CVM						4		LGU, GO,										

RDE NICHE PROGRAM	Program/Project/Study	TIMEFRAME / DELIVERY UNIT						RESEARCH DELIVERABLES (6Ps)		RESEARCH OUTPUT UTILIZATION											
										EXTENSION						PROTECTION, TECHNOLOGY TRANSFER AND INCUBATION / COMMERCIALIZATION					
		2023	2024	2025	2026	2027	2028	Deliverable	Quantity	2023	2024	2025	2026	2027	2028	2023	2024	2025	2026	2027	2028
	laboratory animal production, research and management							A,C,E ,F													

RDE NICHE PROGRAM	PROGRAMS / PROJECTS	COLLEGE / PROGRAM IN-CHARGE						PARTNER / COLLABORATORS	ACTIVITIES	TECH ADOPTED AND UTILIZED	ORDINANCE / RESOLUTION AND OTHER PROGRAM / PROJECTS / OUTCOMES	CLIENTELE S
		2023	2024	2025	2026	2027	2028					
Engineering, Industry and Emerging Technologies		CIT, COE A	CIT, COE A	CIT, COE A	CIT, COEA	CIT, COEA	CIT, COEA	LGU ENRILE, Saint Joseph College of Baggao Incorporated, LGU Gattaran (Barangay Basao)	Livelihood Training on the Making of Men and Ladie's Polo /trousers, Men and Ladies slacks, and Fabric embroidery Trainings on Dressmaking and Tailoring Shielded Metal Arc Welding	-Garment tools - Fabricated metal works	-40 trainees -1 Impact Assessment -3 Garment Products -1 IEC Materials copyrighted	Identified clientele of LGU Enrile
Information and Communications Technology and Artificial Intelligence		CICS	CICS	CICS	CICS	CICS	CICS	LGU ENRILE, Saint Joseph College of Baggao Incorporated	1. Trainings/ Seminars on Connectivity in the digital World, Office Productivity Tools, Online Platforms, Digital	Copyrighted materials -developed Systems	-Impact assessment IEC Materials Activity featured in print/online media	Identified clientele of Partner Agencies

RDE NICHE PROGRAM	PROGRAMS / PROJECTS	COLLEGE / PROGRAM IN-CHARGE						PARTNER / COLLABORATORS	ACTIVITIES	TECH ADOPTED AND UTILIZED	ORDINANCE / RESOLUTION AND OTHER PROGRAM / PROJECTS / OUTCOMES	CLIENTELE S
		2023	2024	2025	2026	2027	2028					
									Security and Privacy, Safeguards against Cyber and Technical Advisory			
Climate Change, Environmental Management and Risk Reduction	Working Towards a Sustainable Community: Exploring the Interplay of Governance, Politics and the Environment	CPAD, CNSM, CHaSS	CPAD, CNSM, CHaSS	CPAD, CNSM, CHaSS	CPAD, CNSM, CHaSS	CPAD, CNSM, CHaSS	CPAD, CNSM, CHaSS	Barangay Linao Norte	1. Environmental Management and Sustainable Development 2. Production and Commercialization of Products out of Recyclable Materials 3. Climate Change Mitigation Community Outreach: Tree Planting	Hydroponic gardening Recycling Composting	1 resolution passed and approved by local government 1 adopters Human Resource Capital (HRC) identified beneficiaries for Extension Services and Community Engagement (ESCE) activities featured in print/ on-line platform Creation of barangay ordinance along Climate Change, environmental management and Risk Reduction	Brgy. Officials, Barangay Development Council(BDC), Barangay Youth Leaders, Households and Constituents of Adopted Barangay

RDE NICHE PROGRAM	PROGRAMS / PROJECTS	COLLEGE / PROGRAM IN-CHARGE						PARTNER / COLLABORATORS	ACTIVITIES	TECH ADOPTED AND UTILIZED	ORDINANCE / RESOLUTION AND OTHER PROGRAM / PROJECTS / OUTCOMES	CLIENTELE S
		2023	2024	2025	2026	2027	2028					
Human Health and Wellness	KINETICO		CHK	CHK	CHK	CHK	CHK	- Tuguegarao City Sepak Takraw Club - Perpetual Youth Organization of Brgy. Ugac Sur - DepEd Tuguegarao and DepEd Cagayan - LGU Sto. Nino - Philippine Red Cross Cagayan Chapter; - Psychological Association of	- Conduct sports and recreation activities - Conduct trainings/ capacity building activities for coaches, referees and athletes - Conduct psychological skills training and mental health seminars among male and female athletes - Train and help target partner-clients in their pursuit towards referee accreditation and coach licensing	Contextualized Reading Instructional Materials	- Increased awareness of Auxiliary (General and Professional Education) Program - Develop attitude towards Auxiliary (General and Professional Education) - Increased capacity for key information engagement and analysis - To produce a highly skilled educated and competitive graduates - Provide gainful economic opportunities to the clients - Provide clientele with National Certificates Research into larger context - Increased awareness of Health and Wellness Program - Develop attitude towards Health and Wellness - Increased capacity for key information engagement and analysis - To produce a highly skilled educated and competitive graduates	Out of School Youth Leaders Coaches, referees and athletes Men and women Struggling Pupils

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		2023	2024	2025	2026	2027	2028					
								Cagayan, Inc. • LGU Penablanca, Cagayan • Carig Integrates School National Commission on Culture and the Arts	5. Develop training manuals/ modules for specific games as references for coaches and athletes 6. Respond to requests of partner-agencies and clients for officiating officials 7. Implement other activities related to the sports and recreation program, as requested and/ or as per necessity. 8. Conduct of health literacy education, in collaboration		11. Provide gainful economic opportunities to the clients 12. Increased awareness of Arts and Culture Program 13. Develop attitude towards Arts and Culture 14. Increased capacity for key information engagement and analysis 15. To produce a highly skilled educated and competitive graduates 16. Provide gainful economic opportunities to the clients	

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		2023	2024	2025	2026	2027	2028					
									with partner organizations 9. Training and certification on massage 10. Training and Certification of First aiders 11. Implement other activities related to the health and wellness program, as requested and/ or as per necessity 12. Reading Enrichment culture among struggling pupils 13. Provision of seminars on Gender Sensitivity, Gender Equality issues, Gender			

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		2023	2024	2025	2026	2027	2028					
									Roles and Rights 14. Conduct of Parenting Seminars 15. Conduct of Knowledge sharing sessions on Youth Volunteerism/ leadership, in collaboration with CSU partners 16. Crafting of advocacy campaign materials relative to societal issues 17. Implement other activities related to the Auxiliary Program, as requested and/			

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		2023	2024	2025	2026	2027	2028					
									or as per necessity. 18. Trainings on Sports and Recreation 19. Establishment of a school living traditions 20. Cultural arts, song and dance mentoring 21. Documentation of knowledge systems and practices 22. Tutoring re: use of musical instruments 23. Respond to requests of partner-agencies and clients for cultural performances 24. Implement other activities			

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		2023	2024	2025	2026	2027	2028					
									related to the arts and cultural program, as requested and/or as per necessity 25. Orientation among Teachers, Struggling/ Non- readers and their parents 26. Reading Activity Sessions 27. One-on-one tutoring among non-readers 28. Small group reading sessions 29. Reading and Recital sessions			



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		2023	2024	2025	2026	2027	2028					
									30. Reading and Comprehension Exams 31. Development of advocacy IEC materials along health and wellness			
Agri-eco tourism	Technologies for Greenhouse High Value Crops	COE A	COE A	COE A	CO EA	CO EA	CO EA	CDA, DA, Farmer Cooperatives	1. Disseminate the established greenhouse in the campus. 2. Familiarize the use of greenhouse for value crops Conduct trainings on the establishment of greenhouse, source of loan and technologies on high value crops	Upgrading the Greenhouse Facilities for high Value Commercial Crops at Cagayan State University	2 adopters 2 cooperatives 185 number of trainees weighted by the length of training 5 trainings	Farmer, Cooperative s of adopted LGUs

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		2023	2024	2025	2026	2027	2028					
Socio-economics	Working Towards a Sustainable Community: Exploring the Interplay of Governance, Politics and the Environment	CPAD, CNSM, ChaSS						Barangay Linao Norte	1. Trainings on Work Ethics and Values Orientation of Barangay Officials 2. Local Legislation: Crafting of Barangay Resolution, Barangay Police Blotter, Barangay Justice System/ Conflict Management 3. Barangay Development Planning Project and Public Fiscal Administration		Efficient Local Legislation and Governance: -Streamlined barangay resolutions for quicker decision-making. Improved leadership effectiveness through better decision-making processes. Holistic Barangay Development: -Comprehensive development plans addressing key community needs. -Enhanced fiscal administration ensuring transparent and accountable use of resources.	Brgy. Officials, Barangay Development Council and Sanggunian Kabataan of Eastern Barangays and Barangay Leonarda
	WE UNITE Well-Rounded and Equitable,	CHS, CIT, CNSM,							1. Strengthening Community Resilience to		- Establishment of the Carig Campus DRRM Center - Expanded Healthcare Services	Disaster Victims in Region 2

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		2023	2024	2025	2026	2027	2028					
	Unified, Non-Partisan, Inclusive, Timely Extension Services	CPAD, CM, COEA CICS							Natural Disasters 2. Recovery, Coping Mechanisms and Stress Management 3. Livelihood Training on Food and Non-Food Production and Processing		- Economic Empowerment of disaster-prone areas communities - Community Resilience and Disaster Preparedness disaster-prone areas communities - Increased Civic Participation of CSU Carig Employees and students - Sustainable Environmental Practices - Strengthened Local Governance - Gender-Responsive Development Projects - Efficient Service-Delivery Systems	Indigenous Peoples in Region 2 Emergency and Disaster Frontline Service Providers in Region 2
	Helping the Helpers		CHSS	CHSS	CHSS	CHSS			4. Needs Assessment of the Target Agencies 5. Training programs for Targeted Agencies			Target Agencies in Tuguegarao

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		2023	2024	2025	2026	2027	2028					
	Capability Enhancement Synergies for PWD Communities in Tuguegarao City	CHS S, CNS M	CHS S, CNS M	CH SS, CN SM	CH SS, CN SM	CH SS, CN SM	CH SS, CN SM	NGOs, LGU Tuguegarao	1. Seminar on the Rights and Privileges of PWDs 2. Community Outreach on the distribution of goods 3. Conduct medical health services Science and Math Literacy		1 Impact Assessment 1 Publication	PWDs/ Direct Family Members, Cattagaman, Caritan, tuguegarao city
Teacher Education	Communication Enhancement Extension Training Program	CHaSS	CHaSS	CHaSS	CHaSS	CHaSS	CHaSS	DEP ED - IGUIG	1. Seminar on journalism		Crafting of student publication	Pupils
Engineering, Industry and Emerging Technologies	Paglilinanang ng Kakayahan para sa Kinabukasan	CIT	CIT	CIT	CIT	CIT	CIT	San Esteban, Iguig, Cagayan	Capability Building Activities on SMAW		IEC Materials on Shielded Metal Arc Welding	OSY, Farmers, Welders

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		2023	2024	2025	2026	2027	2028					
Information and Communication Technologies and Artificial Intelligence	SKYNET (Sharing Knowledge, Yielding New Emerging Technology)		CICS	CICS	CICS	CICS	CICS	LGU Enrile	1. Conduct of an IT Career Fair, Mentorship Program, Development of IEC Materials that promotes E-waste Management, and IT Ethical Issues 2. Trainings on IT Applications 3. System Developments 4. Trainings on Computer Troubleshooting and Computer System Servicing 5. Community Outreach	Copyrighted materials -developed Systems	Impact assessment IEC Materials Activity featured in print/online media 120 trainees	Identified clientele of Partner Agencies
	Project on IT Application for LGU of Alcala and Solana, Cagayan							LGU Solana LGU Alcala				
	Capacitating ICT Competencies of PRO2	CICS						PNP				
	IT SAVES (Information Technology Sufficient and Valuable Extension Services)							LGU Iguig NGOs GOs				

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		2023	2024	2025	2026	2027	2028					
	ASK IT GRAPHIKA							LGU Iguig NGOs GOs Sta. Teresita NGOs GOs				
Livestock and Poultry	Animal Health and Wellness	CVM	CV M	CV M	CV M	CV M	CV M	Department of Agriculture Department of Education Provincial Veterinary Office Provincial Government of Cagayan City Veterinary Office of Tuguegarao	1. Capability Building Seminar on Awareness and advocacy for Zoonotic Diseases Elimination 2. Conduct of trainings and seminars on: a. Housing System b. Natural Feed Production and Processing c. Feeding Practices d. Breeding		Elimination and eradication of Zoonotic Diseases in the Community	Identified beneficiaries, poultry producers of adopted Community

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		2023	2024	2025	2026	2027	2028					
								Integrated School in Tuguegarao City LGU Sto. Niño	e. Egg Incubation f. Brooding Chick Management g. Business Strategies h. Health Management i. Record Keeping 3. Poultry Show cum Symposium 4. Trainings on Management Practices in Rabbit Production 5. Requirement of Rabbit Production 6. Profitable Rabbit Rearing			

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		2023	2024	2025	2026	2027	2028					
									7. Basics for Successful Farm 8. Cuniculture 9. Conduct of Technical Advisory			
Governance	Empowering Citizens for Smarter Local Governance	CPAD	CPAD	CPAD	CPAD	CPAD	CPAD	Barangay Leonarda Gosi Sur Gosi Norte Libag Norte Libag Sur Tagga Dadda Namabbalan Norte Namabbalan Sur	1. Values Orientation/Integration 2. Project Local Legislation/ Making of Barangay Resolutions Project 3. Leadership, Decision Making 4. Barangay Development Planning 5. Project Barangay Fiscal Administration		1. Strengthened Values Integration: -Enhanced community cohesion through values-based programs. -Increased awareness and understanding of shared values among residents. 2. Efficient Local Legislation and Governance: -Streamlined barangay resolutions for quicker decision-making.	Brgy. Officials, Barangay Development Council(BDC), Barangay Youth Leaders, Households and Constituents of Adopted Barangay

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		2023	2024	2025	2026	2027	2028					
									6. Barangay Justice System/ Conflict Management 7. Health Management 8. Environmental Management and Sustainable Development 9. Human Resource Development		-Improved leadership effectiveness through better decision-making processes. 3. Holistic Barangay Development: -Comprehensive development plans addressing key community needs. -Enhanced fiscal administration ensuring transparent and accountable use of resources. 4. Robust Social Infrastructure: -Improved barangay justice system for effective conflict management. -Enhanced health management resulting in a healthier community. 5. Sustainable Environmental and Human Development:	



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		2023	2024	2025	2026	2027	2028					
											-Implemented environmentally sustainable practices. -Strengthened human resource development programs for community empowerment.	