EDCOM2
The Second Congressional Commission on Education

Priority Area 14
Graduate Education, Research and Innovation

# Investigating the State of Graduate Education in the Philippines: Challenges, Opportunities, and Policy Implications


**Anne Lan K. Candelaria, Ph.D.**
ASSISTANT VICE PRESIDENT FOR GRADUATE EDUCATION
ATENEO DE MANILA UNIVERSITY

**Eric Arthur N. Dio, Ph.D.**
DEAN, GRADUATE SCHOOL
UNIVERSITY OF ST. LA SALLE

**Jovelyn G. Delosa, Ph.D.**
VICE PRESIDENT FOR ACADEMIC AFFAIRS
NORTHERN BUKIDNON STATE COLLEGE

**Anne Lan K. Candelaria, Ph.D.**
CORRESPONDING AUTHOR
GROUND FLOOR, KOSTKA HALL
ATENEO DE MANILA UNIVERSITY
Katipunan Avenue, Loyola Heights, Quezon City
acandelaria@ateneo.edu

EDCOM2
The Second Congressional Commission on Education

Priority Area 14
Graduate Education, Research and Innovation

# Investigating the State of Graduate Education in the Philippines: Challenges, Opportunities, and Policy Implications


**Anne Lan K. Candelaria, Ph.D.**
ASSISTANT VICE PRESIDENT FOR GRADUATE EDUCATION
ATENEO DE MANILA UNIVERSITY

**Eric Arthur N. Dio, Ph.D.**
DEAN, GRADUATE SCHOOL
UNIVERSITY OF ST. LA SALLE

**Jovelyn G. Delosa, Ph.D.**
VICE PRESIDENT FOR ACADEMIC AFFAIRS
NORTHERN BUKIDNON STATE COLLEGE

**Anne Lan K. Candelaria, Ph.D.**
CORRESPONDING AUTHOR
GROUND FLOOR, KOSTKA HALL
ATENEO DE MANILA UNIVERSITY
Katipunan Avenue, Loyola Heights, Quezon City
acandelaria@ateneo.edu

This Research Fellowship is made established through the Gokongwei Brothers School of Education and Learning Design (GBSEALD) and the Ateneo School of Government (ASOG), to conduct research projects on 28 priority areas in education reform, as identified by the Second Congressional Commission on Education (EDCOM II).

This research study is published by EDCOM II in partnership with the Ateneo de Manila University and is released on a monthly basis. The materials presented here cannot be reproduced, copied, or duplicated in any form or by any means without explicit written permission from the Commission. This study aligns with the Commission's objective to provide critical insights that support the formulation of evidence-based policies, addressing the distinct challenges and opportunities in the Philippine educational sector.


| | |
|---|---|
| Corresponding Author | Dr. Anne Lan K. Candelaria<br>Ateneo de Manila University |
| EDCOM II Postal Address | 5th floor, Senate of the Philippines, GSIS Building, Pasay, Philippines |
| EDCOM II Email Address | secretariat@edcom2.gov.ph |


ISSN 3028-1709

EDCOM 2
The Second Congressional Commission on Education

# Statements and Declarations

## Declaration of Interest

The author(s) of this work declare no competing interests.

## Declaration of Funding

This research was conducted in collaboration with Ateneo de Manila University as part of the partnership with the Second Congressional Commission on Education (EDCOM II).

The funding source played no role in the design of the study, data interpretation, or decision to publish the findings as the authors maintained complete autonomy in the research process, ensuring objectivity and impartiality in the presentation of results.

## Declaration of Principles

The Second Congressional Commission on Education (EDCOM II) is collaborating with scholars across various institutions to provide valuable insights for the development of evidence-based policies that address the unique challenges and opportunities in the Philippine education landscape.

Our commitment to excellence, integrity, and ethical conduct in advancing research and disseminating knowledge is defined by the following principles:

The Commission is dedicated to upholding the highest standards of academic rigor in the evaluation, review, and dissemination of research publications. Our pledge is to ensure the integrity and quality of the knowledge we contribute to the scholarly community.

The Commission is committed to fostering transparency and data integrity in all aspects of research.

This includes transparent communication, disclosure of methodologies and data sources, and providing clear guidelines to authors, reviewers, and the broader academic community.

The Commission promotes ethical research conduct, emphasizing the responsible and respectful treatment of research participants.

The Commission places a strong emphasis on accessibility. We are committed to facilitating the translation of research findings into accessible formats in order to engage the broader public, taking into account ethical and legal considerations. Our goal is to promote public understanding and awareness of scientific advancements.

In adherence to these principles, the members of the Second Congressional Commission on Education pledge to be stewards of good scholarly research for a better, more inclusive educational system for the Filipino people.

**Karol Mark R. Yee, PhD**
EDCOM II EXECUTIVE DIRECTOR

# Table of Contents

# List of Acronyms

| | |
|---|---|
| AQAF | ASEAN Quality Assurance Framework |
| ASTHRDP | Accelerated Science and Technology Human Resource Development Program |
| AUN QA | ASEAN University Network Quality Assurance |
| BARMM | Bangsamoro Autonomous Region in Muslim Mindanao |
| CBPSME | Capacity Building Program in Science & Mathematics Education |
| DepEd | Department of Education |
| ERDT | Engineering Research and Development for Technology |
| CHED | Commission on Higher Education |
| CMO | CHED Memorandum Order |
| DOST | Department of Science and Technology |
| DOST-SEI | DOST Science Education Institute |
| FAPE | Fund for Assistance to Private Education |
| HEI | Higher Education Institutions |
| LET | Licensure Examination for Teachers |
| OECD | Organisation for Economic Co-operation and Development |
| PAGE | Philippine Association for Graduate Education |
| STEM | Science, Technology, Engineering, and Mathematics |
| TEI | Teacher Education Institutions |
| TFGER | Task Force on Graduate Education Reform |

# List of Tables

# List of Figures

# Executive Summary

This study investigates the current state of graduate education in the Philippines, focusing on its challenges and opportunities that may have implications for policy. The study acknowledges the crucial role of graduate programs in advancing innovation and addressing the need of the country in building a workforce capable of thriving in the future economy but also spearheading regional growth.

This study aligns with EDCOM II's Priority Area 4 on Higher Education, with a focus on Graduate Education, and aims to provide evidence-based assessment of the state of graduate education in the Philippines by analyzing data submitted by various higher education institutions (HEIs) to the Commission on Higher Education (CHED), and to identify key institutional challenges that can be effectively addressed through targeted national and local policies.

The study reports the trends in terms of the distribution of graduate programs in the country; the main factors that influence the demand for graduate education; and the key challenges faced by higher education institutions in relation to the governance of their graduate programs and policy implications.

The study utilizes an explanatory sequential mixed methods approach—first analyzing the existing CHED databases consisting of reports beginning SY 2012-2013 up to SY 2023-2024 submitted by HEIs. For Phase 2, four (4) focus group discussions (FGDs) were conducted with Luzon, Visayas, Mindanao, and the National Capital Region participants chosen from among the Philippine Association for Graduate Education (PAGE), which include both public and private HEIs with regional chapters headed by elected officers who are often deans of graduate schools or senior-level academic leaders.

The investigators recognize the following limitations: (1) incomplete datasets for certain school years and/or categories, and (2) limited representation of some regions in the qualitative sample due to the restricted number of FGD rounds and the voluntary nature of participation. Nevertheless, measures were taken to ensure that these constraints did not compromise the validity of the study's findings.

## Current Profile of HEIs with Graduate Education

Out of the 1,977 higher education institutions (2,410 including satellite campuses) in the Philippines, 876 offered graduate programs in SY 2023–2024, with 57.6% being private, 39.6% nationally funded state universities, 2.4% locally funded universities, and a fifth of these are located in the National Capital Region (19.6%), CALABARZON (10.4%), and Region VI (8%). A total of 553 (63%) HEIs offer Masters degrees while 323 of them offer both Master's and Doctorate degrees (37%) and most of these HEIs are located in the National Capital Region, while MIMAROPA has the least number of HEIs offering masters degrees and Region IX has the least HEIs offering doctoral programs.

## Graduate Enrollment

In SY 2023-2024, a total of 214,487 students are enrolled in master's programs while 40,383 students are enrolled in doctoral programs across the country with the National Capital Region having the most enrolled students with 51,638, followed by CALABARZON with 25,694 and Region III (Central Luzon) with 21,385 and MIMAROPA

has the least number of enrolled students, followed by CARAGA, and Region XII (SOCCSKSARGEN).

## Gender Parity

In SY 2023-2024, out of 214,487 master's students enrolled, 147,250 (68.65%) were females and 67,237 (31.35%) were males. When disaggregated by region, the female-male ratio is significantly narrower in NCR and Region III (Central Luzon) compared to the rest of the regions. At the doctoral level, there is almost a 1:1 ratio of female and male students in the Natural Sciences, Mathematics and Statistics and a ratio of female to male at 3:1 for Health and Welfare-related programs and more male students in ICTS and Engineering, Manufacturing and Construction.

## On-Time Completion

In general, 8 out of 10 graduate students are not able to complete their degree programs within the prescribed period based on CHED and DOST scholarship regulations. For Master's level, an average of 18.77% of students are able to complete their degrees within 2 years across the 3 cohorts. On the average, only 17.19% are able to complete their degrees on time for both cohorts for Doctoral students.

For master's degrees, Business, Administration, and Law recorded the highest on-time completion rates across both cohorts, Education's rate rose to 18.86% during the pandemic, ICT remained constant, Engineering declined from 17.91% to 13.39%, and Natural Sciences, Mathematics, and Statistics slightly increased from 13.05% to 13.35%.

## Exogenous Disruptions

In the past 10 years, there were four significant events that affected graduate education in the country: (1) Full implementation of the Senior High School (SY 2016-2017); (2) COVID-19 pandemic (SY 2020-2021); (3) the release of CMO 16 series 2022 that required all HEIs to conduct at least 50% of their classes onsite (SY 2022-2023) and (4) CMO 15 series 2019 (SY 2020-2021).

## Findings from the Qualitative Data

1. Policy incentives sustain demand in graduate fields of Teacher Education and Business Administration
2. Vertical qualification requirements drive teacher education enrollments
3. Graduate program demand responds to economic and administrative needs
4. Flexible and accessible learning modalities are important to working professionals

From both quantitative and qualitative data, five issues emerged: (1) Graduate education is highly privatized and NCR-centric; (2) Teacher promotion policies in basic education and higher education challenges the growth of more specialized graduates, particularly those related to STEM; (3) Gender disparities in graduate education across regions and disciplines indicate unequal access to advanced education; (4) Master's programs are more sensitive to exogenous factors and shocks and (5) the unequal distribution of graduate programs across regions challenges the capability-building goals of universities and colleges in many communities.

## Policy Recommendations

The following are policy recommendations that target systemic and structural inequalities:

1. Review the impact of vertical alignment of graduate degrees in basic education and higher education.
2. DepEd should consider the quality of HEI and graduate programs for career progression purposes.
3. CHED should adopt a tiered regulatory approach for HEIs offering graduate programs, rather than applying a uniform policy, to account for differences in institutional capacity, program quality and regional context.
4. Strengthen CHED's institutional capacity in the development, monitoring and evaluation of graduate education policies.
5. Implement targeted government policies to promote regional and gender equity.

Graduate education is a living ecosystem, constantly evolving and reacting to internal and external events. To safeguard graduate education from unnecessary disruptions, the Philippine government should pursue a more integrated vision and grounded strategy to ensure that graduate education is not only protected, but also empowered.

**Keywords:** *Philippine graduate education, state of graduate education, quality of graduate education, graduate programs, policy*

# Introduction

Graduate programs advance knowledge, drive innovation, and address societal challenges. According to CMO 15, series of 2019, graduate programs are expected to play a significant role in achieving national development goals by producing graduates with advanced competencies in instruction, research, leadership, creative work, and professional practice. Aligned with the Philippine Development Plan (2023–2028), graduate education is key to building a future-ready workforce.

## Objectives of the Study

This study aligns with EDCOM II's Priority Area 4, specifically Higher Education, and its focus on Graduate Education. This study aims:

1. to provide a comprehensive, up-to-date assessment of the state of graduate education in the Philippines by analyzing data submitted by various higher education institutions (HEIs) to the Commission on Higher Education (CHED); and
2. to identify and advance key institutional challenges that can be effectively addressed through targeted national and local policies, ultimately fostering a more robust and equitable graduate education system.

## Research Questions

To support the objectives of this study, the investigators aim to answer the question: *What is the current state of graduate education in the Philippines, and what are the key challenges, opportunities, and policy implications associated with it?*

Particularly, this study investigates the following:

1. What are the trends in terms of the distribution of graduate programs in the country?
2. What are the main factors that influence the demand for graduate education in the country?
3. What are the key challenges faced by higher education institutions in relation to the governance of their graduate programs?
4. How do current policies impact the supply and quality of graduate education in the country?

## Significance of Study

Despite its significant contribution to national development, graduate education in the country is an under-studied social phenomenon. The last survey on the state of graduate education was conducted ten years ago by Ofreneo and published by the Philippine Institute for Development Studies in 2014. Before this, CHED commissioned a study to investigate the quality of three graduate programs (Teacher Education, Business Education and Public Administration) to the Fund for Assistance to Private Education (FAPE) in 2004. Therefore, this study's significance lies in its attempt to provide an understanding of the current state of graduate education through panel data consisting of 10 School Years.

The findings of this study are expected to have significant policy implications at the local and national levels.

## Scope and Limitations

This study examines the current state of graduate education in the Philippines and its corresponding challenges, opportunities, and policy implications. In doing so, it relies on existing CHED databases. The information in these databases are based on reports submitted by HEIs. Since Ofreneo's study only analyzed data from SY 2011-2012, only data beginning SY 2012-2013 up to SY 2023-2024 are collected for this study.

To help deepen the analysis of this study, quantitative results were interrogated qualitatively through four focus group discussions (FGDs): Luzon, Visayas, Mindanao, and the National Capital Region. Participants for the FGDs were chosen from among the Philippine Association for Graduate Education (PAGE), which includes both public and private HEIs with regional chapters headed by elected officers who are often deans of graduate schools or senior-level academic leaders.

Despite efforts to maintain a robust research design, the investigators acknowledge the following limitations:

1. incomplete datasets for particular School Years and/or categories; and
2. insufficient representation of certain regions from the qualitative sample, since FGD rounds are limited and attendance is voluntary.

Nonetheless, the investigators made sure that the validity of the study's results are not compromised.

# Graduate Education in Global, ASEAN, and Philippine Contexts

Graduate education plays a crucial role in enabling individuals to develop advanced skills in teaching, research, leadership, and implementing innovations in their contexts. It is recognized as a factor promoting economic growth and intellectual capital, but its focus differs significantly by region. This section explores the status of graduate education in global, ASEAN, and Philippine contexts, discussing key trends, policy implications, challenges, and opportunities.

## Global Context of Graduate Education

Graduate education has expanded significantly across different countries and education systems worldwide. There has been an increase in postgraduate programs focusing on integrating theory into practice and research innovations (Altbach & Salmi, 2011).

Globally, graduate institutions have enacted changes in graduate education, particularly in doctoral education (Taylor, 2023). Three significant changes can be highlighted.

1. First, there is an increasing focus on quality assurance. As more and more universities worldwide subject themselves to rankings and accreditation of their undergraduate and graduate programs, the impact of quality assurance on governance mechanisms of universities has been profound.
2. Second, the importance of how graduate programs are funded has also emerged. In the United States, graduate education often depends on student tuition, and in Australia and other European countries, funds come from the state. The pivot to internationalization, diversity, and accessibility of graduate programs relies heavily on the financial resources of universities, often funding scholarships for both local and international students.
3. Third, the increased utilization of technology after the pandemic has opened alternative modes of program delivery. More graduate programs are now offered virtually, either partially or fully. This increasing demand for more flexibility and accessibility has encouraged higher education institutions worldwide to offer online and hybrid graduate programs.

## Graduate Education in the ASEAN Context

Countries in the ASEAN region have also expanded their education systems and graduate programs to meet regional and global standards. Some initiatives include implementing the ASEAN Quality Assurance Framework (AQAF) to improve educational quality. This regional framework aligns with ASEAN's Vision 2025 to create a cohesive educational system and promote regional integration.

Quality assurance is also given priority at the regional level. Countries in Asia have established their quality frameworks, often referencing these with the ASEAN Quality Assurance Framework for cross-border agreements. The ASEAN University Network Quality Assurance (AUN QA) was established in 1998 to support the harmonization of educational standards across the region. Today, as ASEAN countries improve the quality of graduate programs, many of them still face challenges in research and development due to the lack of funding for research projects and infrastructure.

## The Philippine Graduate Education Landscape

There is a focus on upgrading graduate education programs in the Philippines to enhance students' 21st-century skills and equip them with global competencies. With the introduction of K-12 in basic education and the enactment of RA 10931(Universal Access to Tertiary Education Act), a higher demand for more advanced and specialized post-baccalaureate degrees is anticipated.

In 2013, the Task Force on Graduate Education Reform (TFGER) was established to revitalize access to quality graduate education needed for national development amid globalization. TFGER raised concerns about undervalued and underdeveloped graduate programs outside of the teacher education, business administration, and public administration disciplines. Graduate programs were expected to focus on mastery in a specialized field, original and critical thinking, and problem-solving skills.

The Philippines has 1,977 private and public colleges, 2,410 when including satellite campuses (CHED, 2023). There are 876 HEIs that offer graduate programs with 228,602 students enrolled in a master's program, while 41,012 students are enrolled in a doctoral program in the same year.

Graduate education in the Philippines has undergone various developments, with CHED Memorandum Order No. 15, series of 2019 (Policies, Standards and Guidelines for Graduate Programs), serving as the current guide for implementing graduate programs (CHED, 2019). Despite this, governance challenges remain, such as limited resources and the need to align with international standards. Sustaining quality across thousands of institutions offering graduate programs is also a pressing issue.

Another major concern is the accessibility of graduate education, especially for students in rural or underserved areas, where institutional capacity and support systems are often limited or unevenly distributed. In the same CMO, teacher education is described as an "oversubscribed" graduate program; however a 2022 study revealed low Licensure Examination for Teachers (LET) passing rates in regions like Bangsamoro Autonomous Region in Muslim Mindanao (BARMM) and Zamboanga Peninsula. This raises concerns about whether earning a master's degree in education can truly enhance graduates' prospects if their licensure exam performance remains below standard.

One of the expected outcomes of graduate education is its contribution to the field of research. Magnaye and Malabarbas (2022) evaluated the research competence of teacher education graduate students. Results reveal that students lack the necessary skills and training to conduct independent research. Accordingly, three-fourths of the respondents could not avail of relevant research training, owing to several factors like faculty unavailability, curricula scheduling, scholarships, and advertising of opportunities and sources.
The tracer study of Bueno (2017) in a particular HEI reveals that the graduates were employed in regular or permanent status in jobs within and outside the Philippines and some even occupy key positions in different institutions and companies. The study highlights the need for graduate schools to align higher education curricula with the demands of the labor market. The study recommends internship and apprenticeship programs that provide more relevant and up-to-date skills and experience, encouraging HEIs to partner with industry experts in designing more appropriate curricula. Another graduate program tracer study by Aranda et al., (2023) reaffirms the significance of the graduate studies program, particularly in training graduates to adapt to new challenges and thrive in their chosen fields.

In recent years, higher education in the Philippines shifted due to the COVID-19 pandemic. Modular and online learning replaced face-to-face classes, later evolving into a hybrid setup (Philstar, 2022). Scholars have since explored how this shift impacts graduate education quality. Pizarro and Bansig (2021) in their study in a northern Philippine university concluded that ubiquitous learning will increase in the future, requiring the need for faculty and student training in educational technologies. Respondents noted that this learning mode improved their critical thinking, citing faster and more accessible learning through technology.

## Factors that Influence Demand for Graduate Education

Although students may have different reasons for pursuing graduate education (Fajcíková & Urbancová, 2019), their decisions are shaped by a mix of factors. Some of these are professional growth, job market competition, career advancement, and dissatisfaction with current employment.

Development in industry and professions also influence demand as postgraduate education has become increasingly vital in developing high-level specialists, especially as higher education becomes more widespread (Li, 2024). In a study of 38 Organisation for Economic Co-operation and Development (OECD) countries, Pedersen (2014) noted a rise in PhD graduates from 2000 to 2010, particularly in STEM fields, supported by government scholarships due to their role in innovation. PhD degrees often served as screening tools for employment, leading to lower unemployment among holders. Most were drawn to academic careers, though in many countries—except Belgium, Denmark, the Netherlands, and the U.S., 35% to 55% work outside the academe. Pedersen suggested further research on PhD mobility to help maintain the appeal of doctoral education. Sarrico (2022) affirmed the steady growth of students who have attained doctoral degrees. Sarrico believed that if this trend persists, 2.3% of today's young adults are expected to pursue doctoral studies.

In the UK, the government and universities equip PhD students for diverse careers beyond academia. These graduates are valued for their research skills and ability to bridge academia with the public and private sectors (Hancock, 2019; Kyvik & Olsen, 2012). Industry exposure begins as early as the application stage.

Paixão and Souza (2018) found master's graduates developed key competencies such as strategic thinking, interpersonal skills, and research integration. Career growth and moderate income improvement were also noted. Similarly, Bueno's (2017) tracer study highlighted how graduate programs align with industry needs, emphasizing communication, critical thinking, and IT skills.

Other factors are related to more personal development such as an appealing curriculum, international mobility, networking, and opportunities for peer exchange. Wang et al. (2024) identified motivations such as enhancing academic credentials, professional skills, and career development among Chinese nursing students, with the influence of role models emerging as a unique driver. However, barriers such as financial obligations, family expectations, and societal norms urging immediate employment may hinder the pursuit of graduate studies.

Greene et al. (2020) on the other hand found that MAEd students in the U.S. pursued graduate studies primarily for program time & length, broader professional opportunities, and commitment to lifelong learning. They cited the importance of one-year programs and online delivery. Similarly, Jung and Soo (2019) identified factors such as gender, age, socioeconomic status, academic discipline, satisfaction with undergraduate studies, and intrinsic motivation as influential. Students from research universities in major cities also showed a higher likelihood of enrolling in master's programs. Key motivations for pursuing graduate education include qualification upgrades, increased self-esteem, intellectual stimulation, and the joy of learning (Cruz & Ramirez, 2016). Although a myriad of factors were cited as reasons for pursuing graduate education, personal and professional growth surfaced as the common theme.

In the Philippines, the growing demand for graduate education is influenced by policies from the CHED and the Department of Education (DepEd). The DBM-CHED Joint Circular No. 3, s. 2022 for instance sets qualification standards for faculty positions in state universities and colleges, motivating educators to pursue graduate degrees in order to meet the criteria for reclassification. Master's or doctoral degrees are required for faculty members to be reclassified beyond entry-level academic positions. To qualify for higher ranks (particularly for Associate Professor, Professor, and College/University Professor), faculty must hold a doctorate that is vertically articulated with their master's degree and in the same or allied field, as recognized by CHED.

Furthermore, CHED CMO No. 52, s. 2016 (Pathways to Equity, Relevance and Advancement in Research, Innovation, and Extension in Philippine Higher Education) encourages universities to offer master's and doctoral programs that meet global academic and research standards. For teacher education programs, a requirement of at least a Masters degree is needed to be able to teach in higher education (CHED Memorandum Order No. 74,75 and 76, series of 2017). Additionally, the Department of Education's Order No. 7, s. 2023, (Guidelines on Recruitment, Selection, and Appointment in the Department of Education) introduces

a point-based recruitment and promotion system (Education, Training, and Experience or ETE rubric) that recognizes additional education such as master's or doctoral degrees. Applicants with a master's degree or graduate units earn higher evaluation scores, improving their competitiveness in the selection process.

## Shifting of International Norms in Higher Education

In 1999, representatives of 29 European nations signed the Bologna Declaration, initiating the Bologna Process, a decentralized yet coordinated intergovernmental effort involving European countries and the European Commission (Klemenčič & Palomares, 2017). Characterized by a policy-network model of governance, it differs from traditional bureaucratic systems. The Bologna Process outlined six key action lines: creating comparable degrees, adopting a bachelor/master system, establishing credit systems, promoting mobility, enhancing quality assurance, and fostering a European dimension in higher education (Bologna Declaration, 1999). One of its main goals is the harmonization and strengthening of European higher education while improving global competitiveness, particularly against the U.S. model (Guri-Rosenblit et al., 2015; Teichler, 2009).

Inspired by this, ASEAN ministers in 2008 began working toward greater regional harmonization across 6,500 institutions and 12 million post-secondary students (Dang, 2015). This effort, reinforced by the 15th ASEAN Summit in 2009, led to more concrete regional cooperation in education, including initiatives like CAMPUS Asia and Asian International Mobility for Students (AIMS), which are modeled after Bologna's credit transfer systems.

The changing higher education landscape prompted ASEAN countries to implement major reforms to stay relevant. Ratanawijitrasin (2015) identified massification, diversification, marketization, internationalization, governance and financial restructuring, quality assurance, and regional integration as key trends shaping Southeast Asian HEIs.

# Methodology

The study used an explanatory sequential mixed methods approach—first analyzing CHED data to identify trends in graduate education (Phase 1), then conducting focus group discussions to better understand the reasons behind these patterns and the effects of past policies (Phase 2). This study used CHED data provided by the Office of Planning, Research and Knowledge Management. The database contained information from SY 2012-2013 to SY 2023-2024.

For Phase 2, four (4) FGDs were conducted virtually via Zoom. A total of 21 participants were interviewed following these groupings: Luzon (6 participants), Visayas (3 participants), Mindanao (5 participants), and the National Capital Region (7 participants). They were officers and regional representatives of the Philippine Association for Graduate Education (PAGE). In addition, a one-on-one interview was also conducted with the PAGE National President to triangulate feedback from the field and to gain a broader insight into the challenges of graduate education in the country.

The validity and credibility of this study are strengthened further with the collaboration of researchers with extensive administrative leadership experience in graduate education from the National Capital Region, Visayas and Mindanao. This is what Carter, et. al. (2014) refer to as "investigator triangulation," where the collaboration leads to multiple observations, with a view to converge and to confirm obtained results.

# Landscape of Graduate Education in the Philippines

## Current Profile of HEIs with Graduate Education

Out of the 1,977 higher education institutions in the Philippines, 2,410 when including satellite campuses (CHED, 2023), there are 876 HEIs that offer graduate programs in SY 2023-2024. More than half of these institutions (57.6%) are private, 39.6% are nationally-funded state universities while the remaining 2.4% are universities that are funded by their respective local governments. About a fifth (19.6%) of these institutions are in the National Capital Region, followed by CALABARZON (10.4%) and Region VI (8%) as seen in Table 1.

**TABLE 1**

**Number of HEIs offering Graduate Programs Across Regions (SY 2023-2024)**

| Region | LUC | | OGS | | Private | | SUC | | Total Ma | Total Doc | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ma | Doc | Ma | Doc | Ma | Doc | Ma | Doc | | | |
| BARMM[1] | - | - | - | - | - | - | - | - | - | - | - |
| CAR | 0 | 0 | 0 | 0 | 8 | 5 | 14 | 12 | 22 | 17 | **39** (4.00%) |
| CARAGA | 0 | 0 | 0 | 0 | 8 | 3 | 7 | 5 | 15 | 8 | **23** (2.60%) |
| NCR | 7 | 5 | 2 | 1 | 90 | 48 | 10 | 9 | 109 | 63 | **172** (19.60%) |
| REGION I | 1 | 1 | 0 | 0 | 25 | 10 | 10 | 10 | 36 | 21 | **57** (6.50%) |
| REGION II | 0 | 0 | 0 | 0 | 14 | 10 | 15 | 13 | 29 | 23 | **52** (6.00%) |
| REGION III | 1 | 0 | 0 | 0 | 30 | 12 | 15 | 11 | 46 | 23 | **69** (7.80%) |
| CALABARZON | 2 | 0 | 0 | 0 | 44 | 13 | 17 | 15 | 63 | 28 | **91** (10.4%) |
| MIMAROPA | 0 | 0 | 0 | 0 | 3 | 2 | 9 | 7 | 12 | 9 | **21** (2.40%) |
| REGION V | 0 | 0 | 0 | 0 | 21 | 14 | 9 | 9 | 30 | 23 | **53** (6.00%) |
| REGION VI | 2 | 1 | 0 | 0 | 18 | 10 | 24 | 17 | 44 | 28 | **72** (8.20%) |
| REGION VII | 1 | 0 | 0 | 0 | 24 | 15 | 17 | 12 | 42 | 27 | **69** (7.90%) |
| REGION VIII | 0 | 0 | 0 | 0 | 10 | 1 | 15 | 12 | 25 | 13 | **38** (4.30%) |
| REGION IX | 0 | 0 | 0 | 0 | 7 | 3 | 7 | 4 | 14 | 7 | **21** (2.40%) |
| REGION X | 0 | 0 | 0 | 0 | 18 | 7 | 10 | 7 | 28 | 14 | **42** (4.80%) |
| REGION XI | 0 | 0 | 0 | 0 | 15 | 5 | 8 | 6 | 23 | 11 | **34** (3.90%) |
| REGION XII | 0 | 0 | 0 | 0 | 9 | 3 | 6 | 5 | 15 | 8 | **23** (2.60%) |
| **TOTAL** | **14** | **7** | **2** | **1** | **344** | **161** | **193** | **154** | **553** | **323** | **876 (100%)** |
| | | ***21 (2.40%)*** | | ***3 (0.34%)*** | | ***505 (57.60%)*** | | ***347 (39.60%)*** | | | |

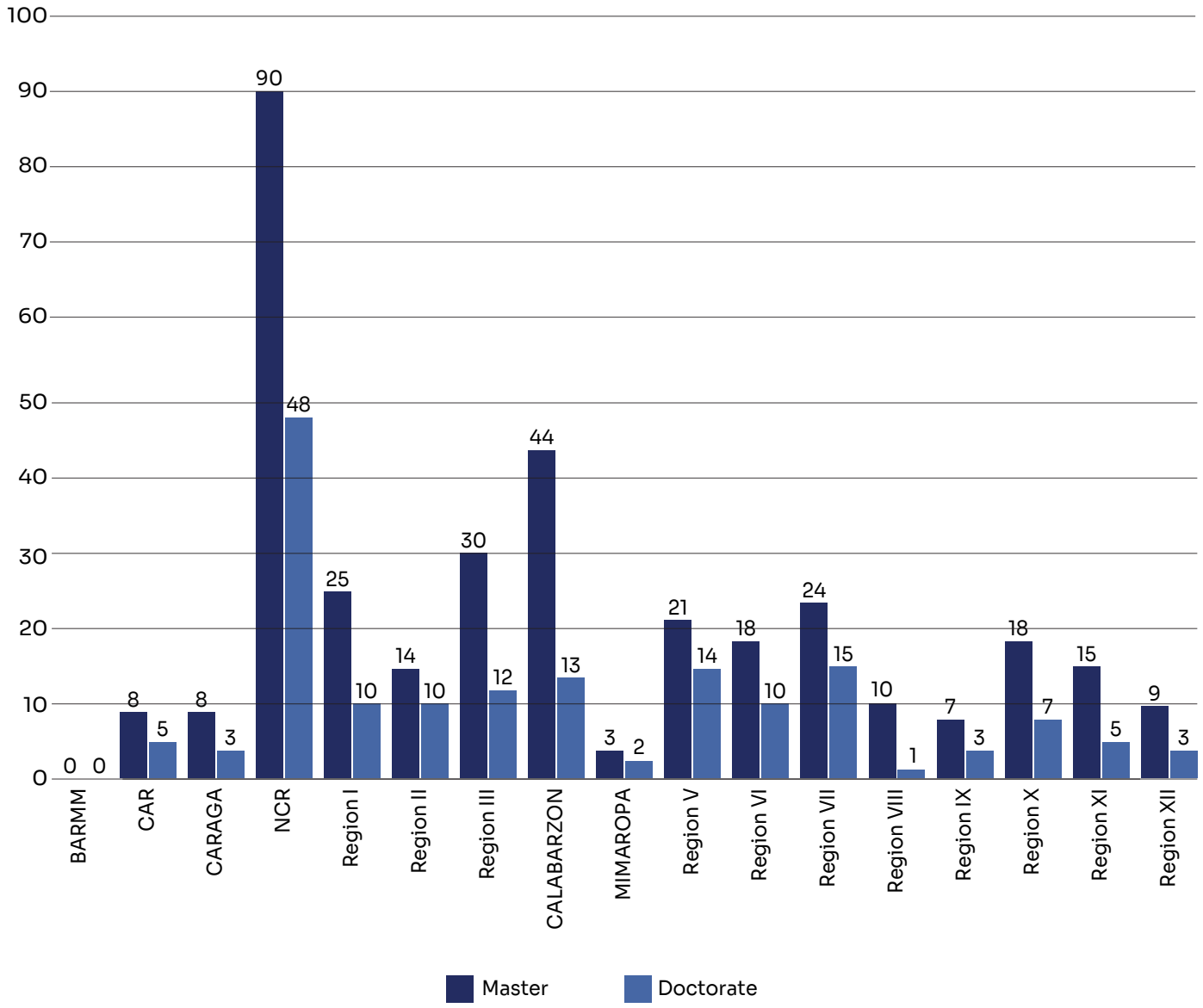
*Legend:*
- *Ma - Masters*
- *Doc - Doctoral*
- *LUC - Local Universities and Colleges*
- *OGS - Other Government Schools*
- *Private - Private Universities and Colleges*
- *SUC - State Universities and Colleges*

A total of 553 (63%) HEIs offer Masters degrees while 323 of them offer both Master's and Doctorate degrees (37%). Most of the HEIs offering master's and doctorate degrees are located in the National Capital Region, while MIMAROPA has the least number of HEIs offering masters degrees and Region IX has the least HEIs offering doctoral programs.

1 *No data from BARMM was collected by CHED during this period.*

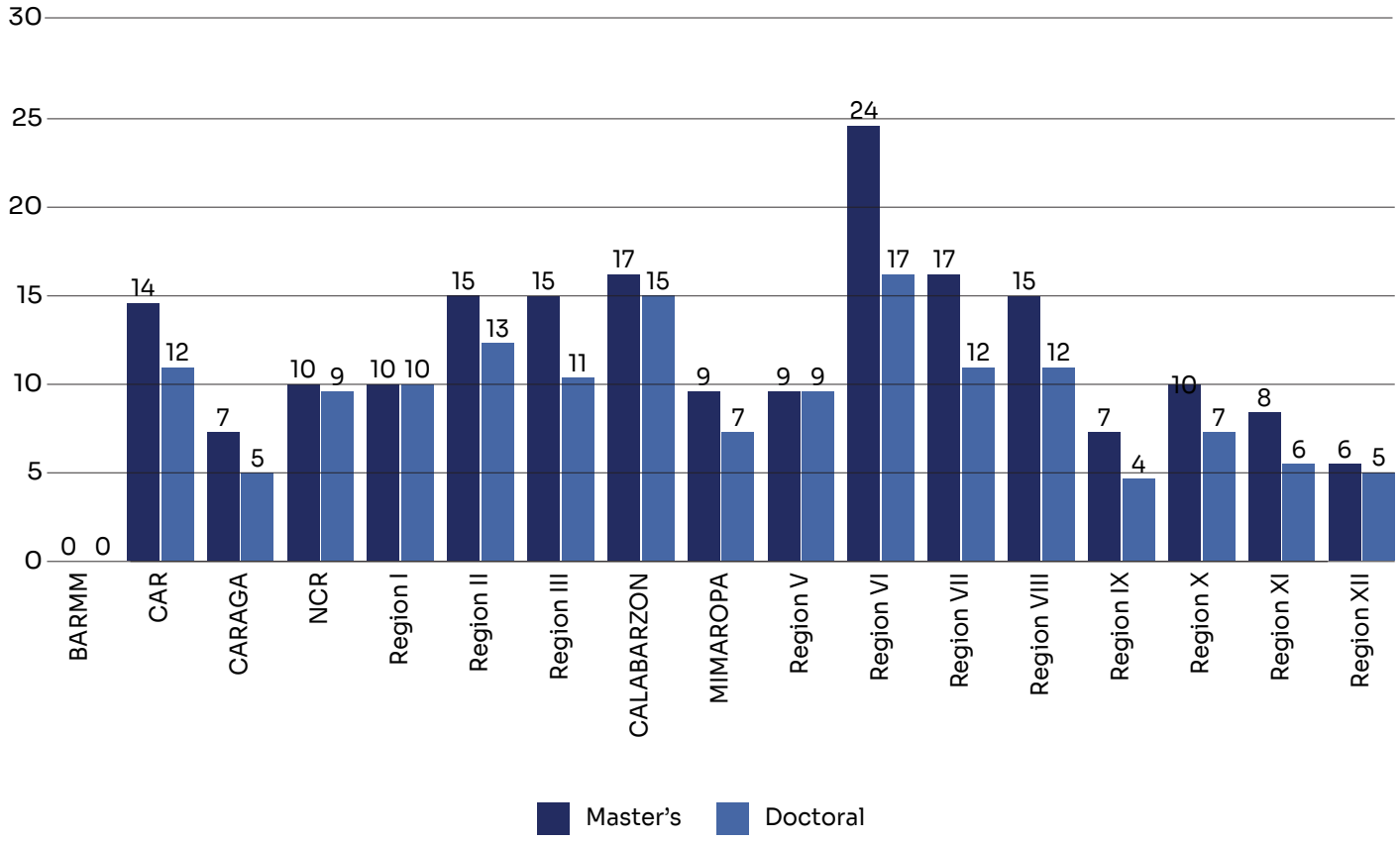
**FIGURE 1**

**Private Higher Education Institutions with Graduate Programs by Region (SY 2023-2024)**




Nonetheless, the number of SUCs offering graduate programs are more evenly distributed across the regions compared to private universities as seen in Figures 1 and 2. This implies that while our country's graduate education remains to be highly privatized and NCR-centric, state colleges and universities are an important equalizer in terms of access to master's and doctoral programs in the regions.

**FIGURE 2**
**State Universities and Colleges with Graduate Programs by Region (SY 2023-2024)**

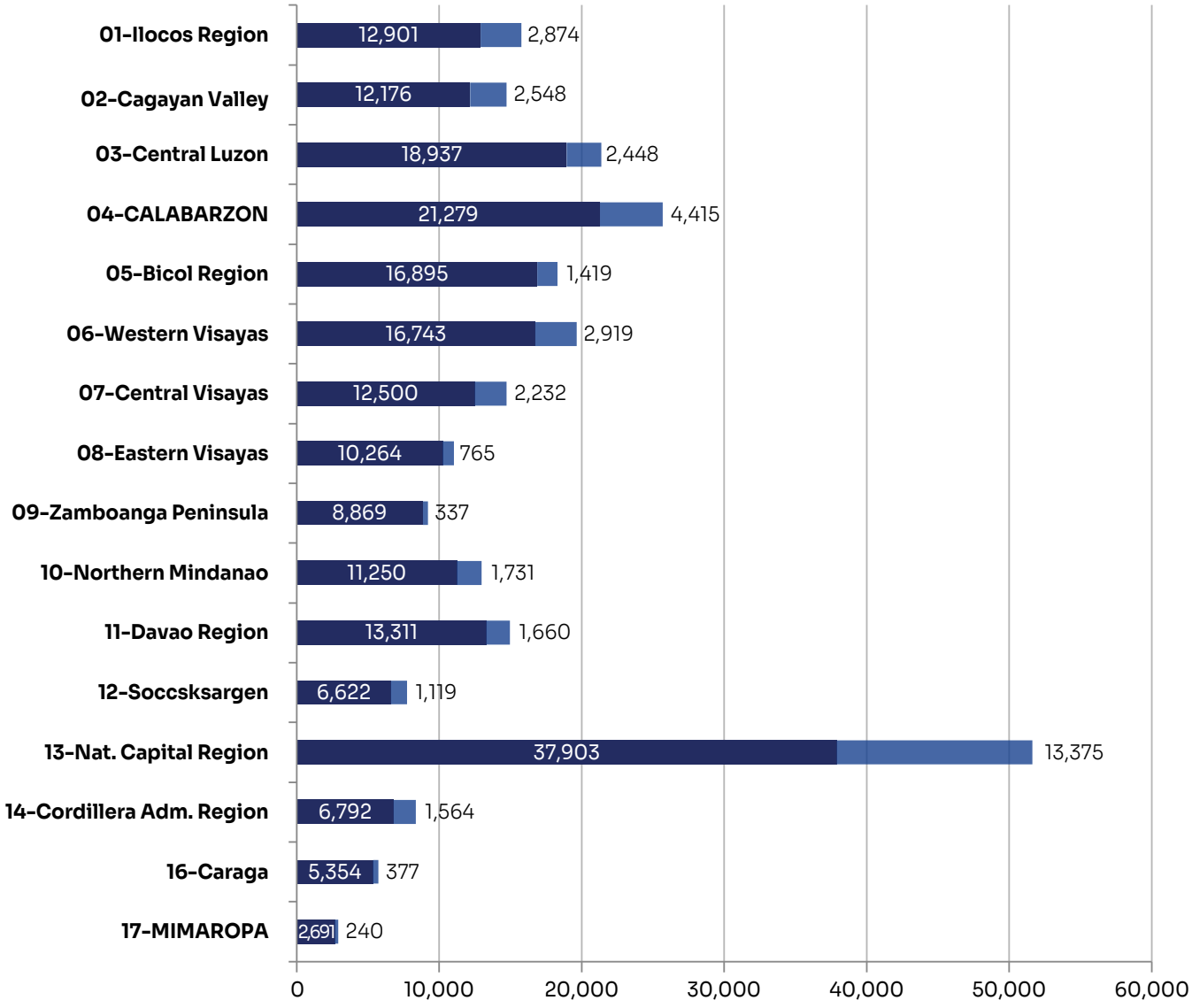



## Graduate Enrollment

In SY 2023-2024, a total of 214,487 students are enrolled in master's programs while 40,383 students are enrolled in doctoral programs across the country (Figure 3). The National Capital Region has the most enrolled students with 51,638, followed by CALABARZON with 25,694 and Region III (Central Luzon) with 21,385. MIMAROPA has the least number of enrolled students with 2,931, followed by CARAGA with 5,731 and Region XII (SOCCSKSARGEN) with 7,741.

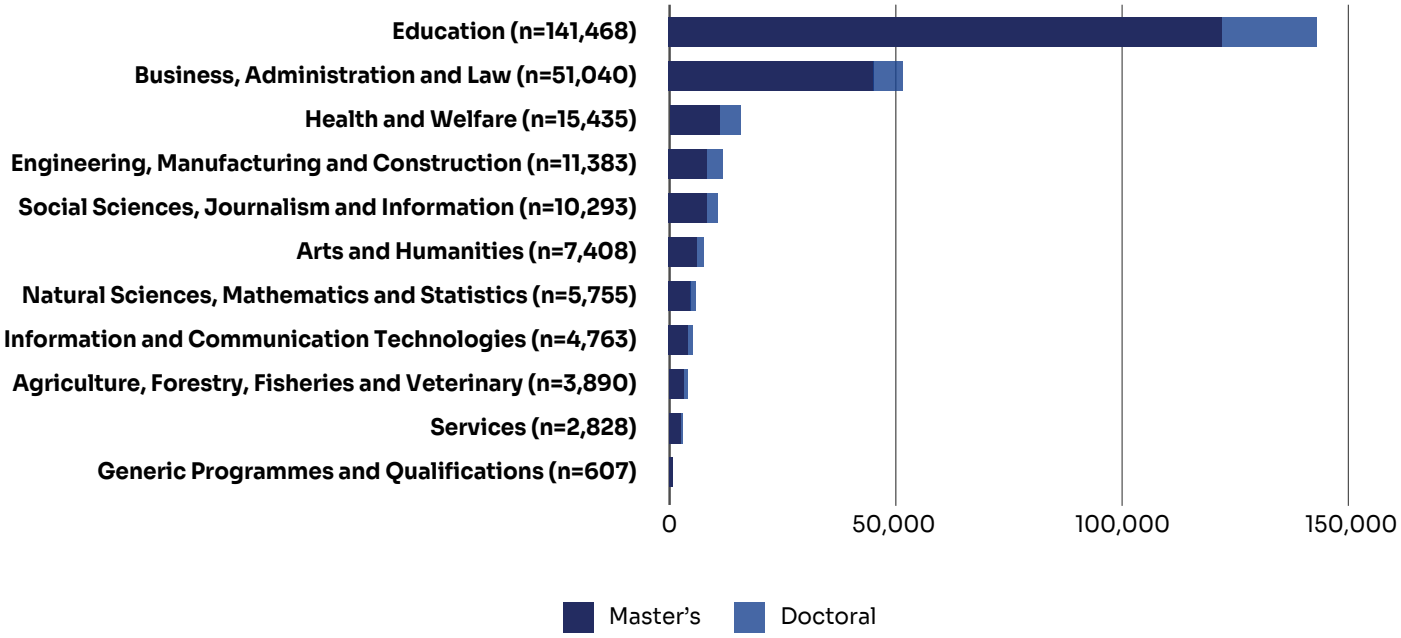
**FIGURE 3**

**Enrollment in Master's and Doctoral Programs by Region (SY 2023-2024)**



Education degree programs have the most enrollment in both master's and doctoral level, accounting for 55.51% of the total enrollment in SY 2023-2024. This is followed by Business, Administration and Law at 20.03% as shown in Figure 4.

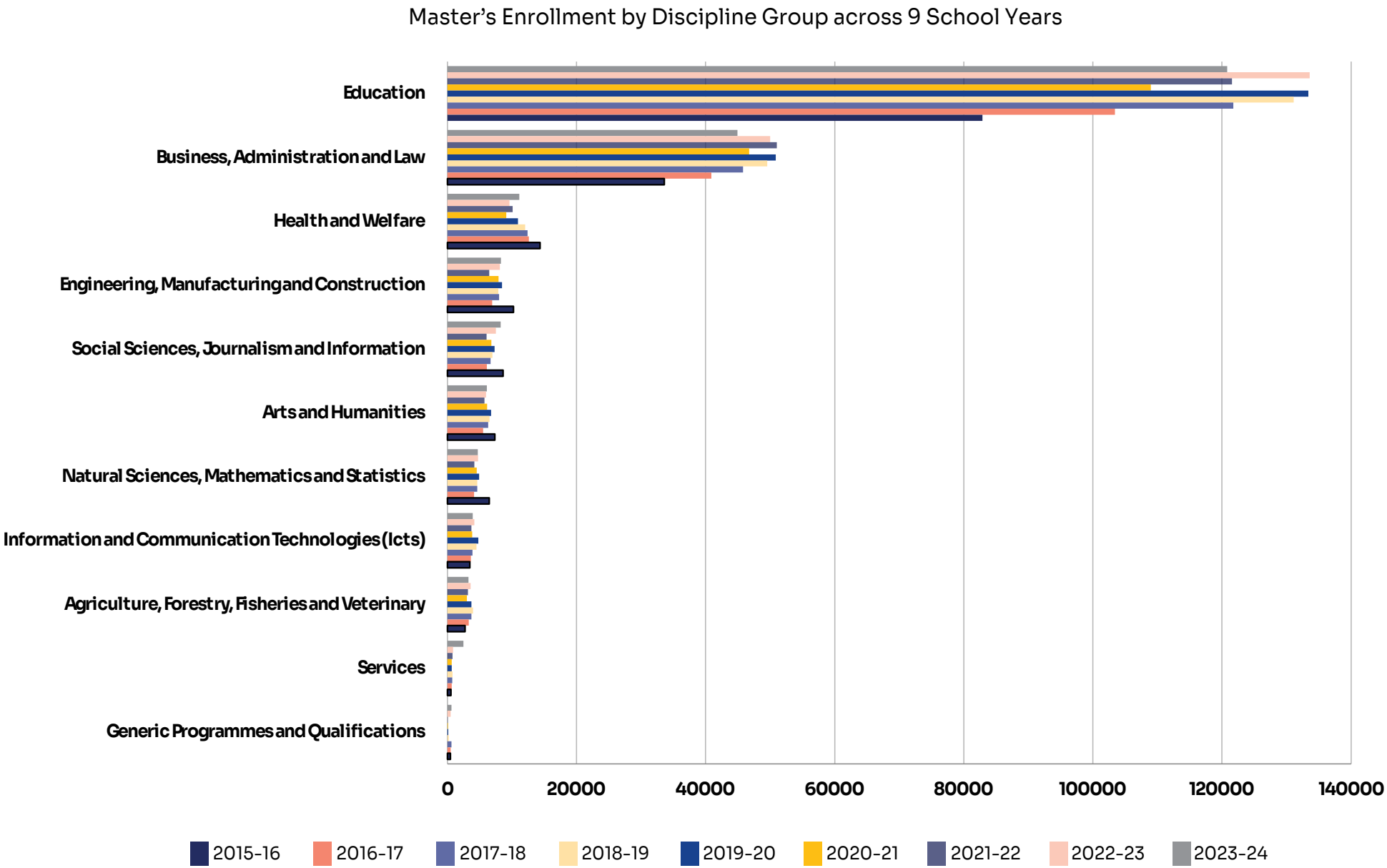
**FIGURE 4**
**Enrollment in Master's and Doctoral Programs by Discipline Group (SY 2023-2024)**

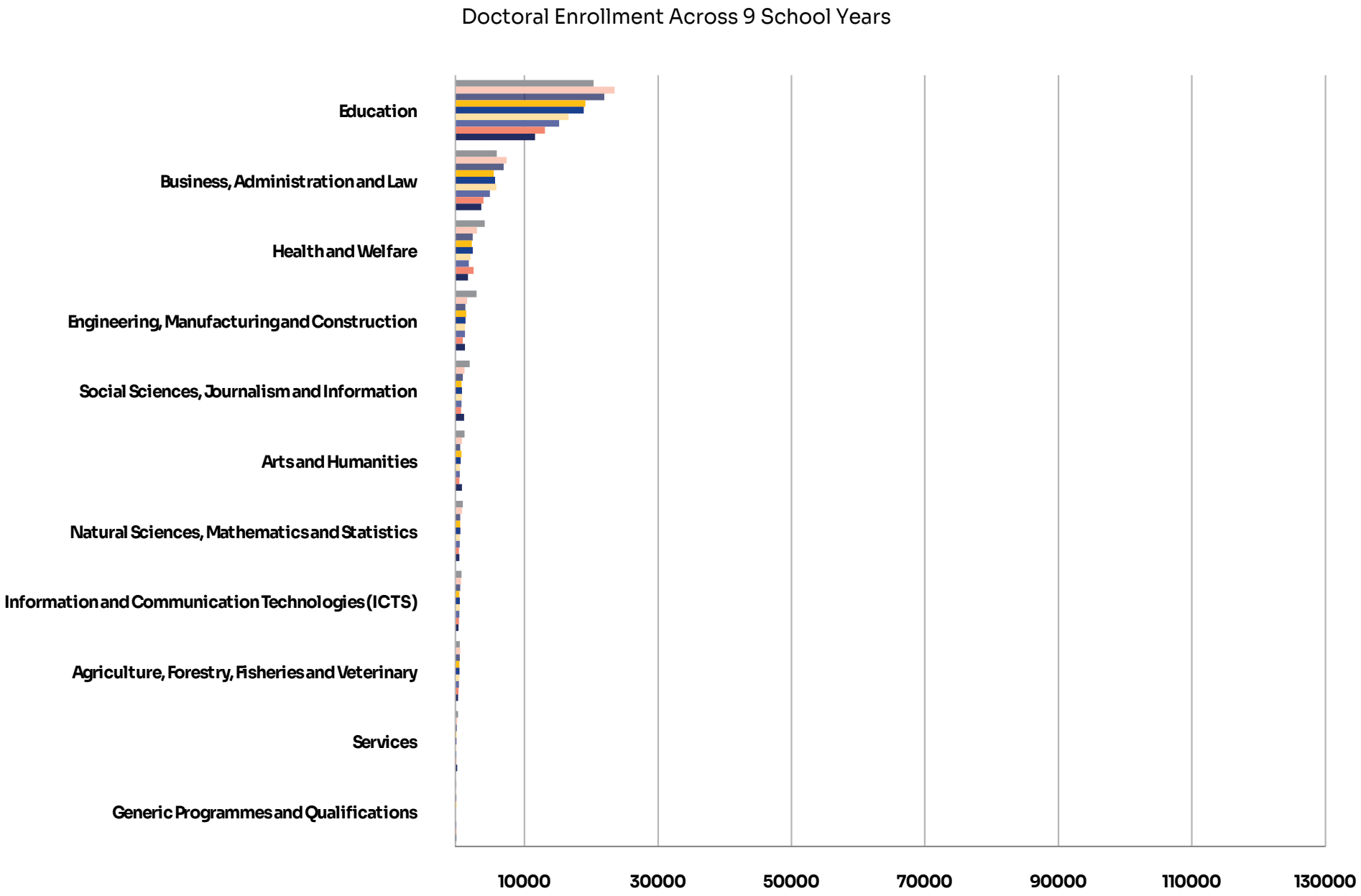



The high enrollment in Education and Business and Administration fields have not changed in the last 9 School Years, based on data from SY 2015-2016 to SY 2023-2024. This was also observed by Onofreo in her study of graduate education using data from SY 2012-2013.

**FIGURE 5**

**Enrollment in Master's and Doctoral Programs by Discipline Group (SY 2015-2016 to SY 2023-2024)**




Doctoral Enrollment Across 9 School Years
Education
Business, Administration and Law
Health and Welfare
Engineering, Manufacturing and Construction
Social Sciences, Journalism and Information
Arts and Humanities
Natural Sciences, Mathematics and Statistics
Information and Communication Technologies (ICTS)
Agriculture, Forestry, Fisheries and Veterinary
Services
Generic Programmes and Qualifications
10000
30000
50000
70000
90000
110000
130000

This is despite the fact that in the STEM fields, various graduate study scholarships have been awarded by the Department of Science and Technology (DOST). According to Saloma (2020), among these scholarships are the Accelerated Science and Technology Human Resource Development Program (ASTHRDP) and the Engineering Research and Development for Technology (ERDT), both launched in 2007 by DOST. Saloma further noted that these programs were implemented in collaboration with selected Philippine higher education institutions (HEIs) to increase the number of STEM PhD and MS graduates by offering generous scholarships and consolidating faculty and laboratory resources nationwide.

In 2018, DOST and the Department of Education (DepEd) also signed a Memorandum of Agreement for the Capacity Building Program in Science and Mathematics Education (CBPSME) (DepEd, 2018). According to the official CBPSME-DOST website, the scholarship supports Master's and Doctoral studies in Science and Mathematics Education for DOST-SEI scholar-graduates, honor graduates, and qualified faculty from Teacher Education Institutions (TEIs) and consortium universities.

## Gender Parity

In SY 2023-2024, out of 214,487 master's students enrolled, 147,250 (68.65%) were females and 67,237 (31.35%) were males. When disaggregated by region, it can be observed that female-male ratio is significantly narrower in NCR and Region III (Central Luzon) compared to the rest of the regions.

**FIGURE 6**
**Master's Enrollment - Region and Sex Disaggregation (SY 2023-2024)**

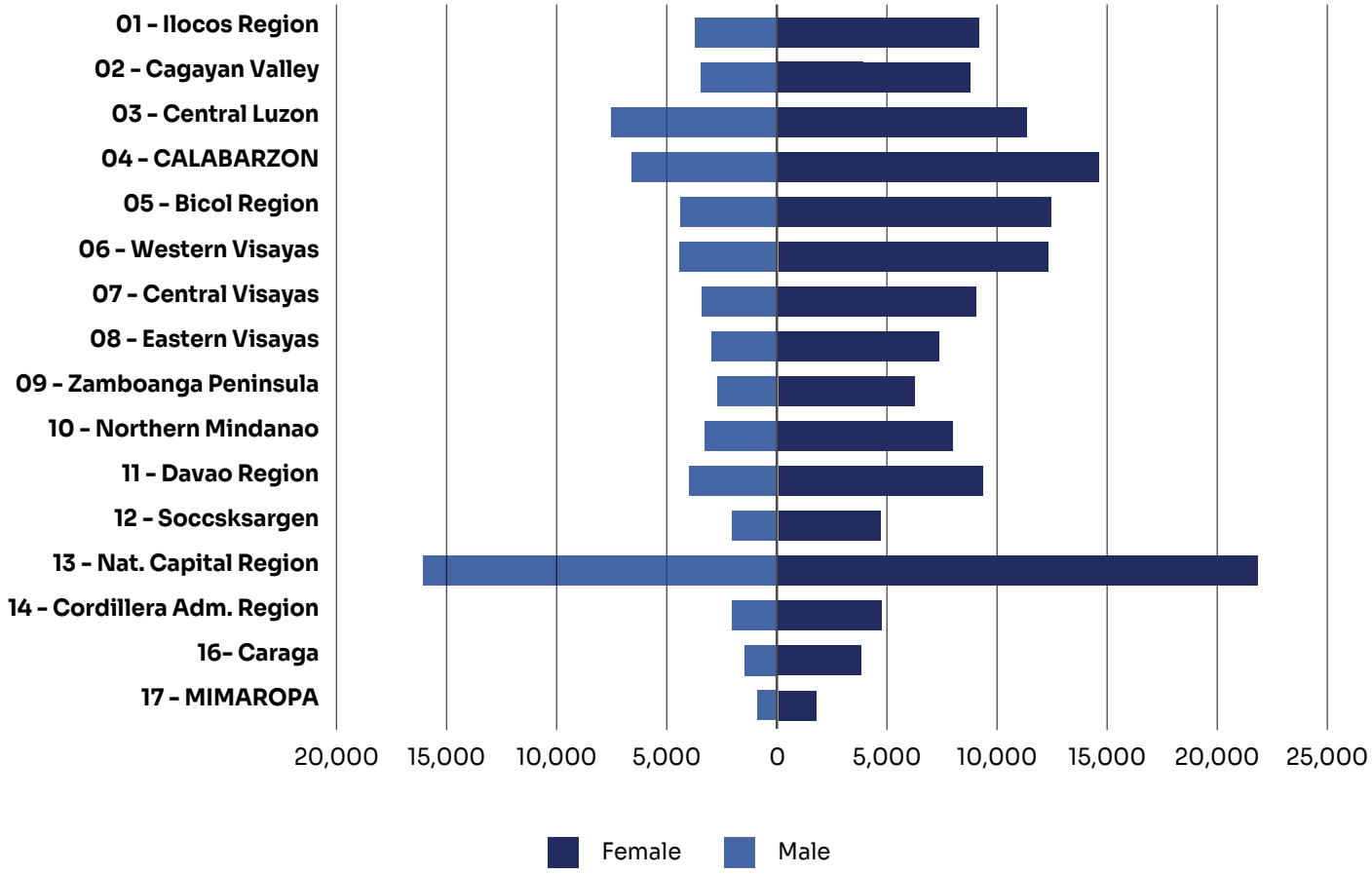
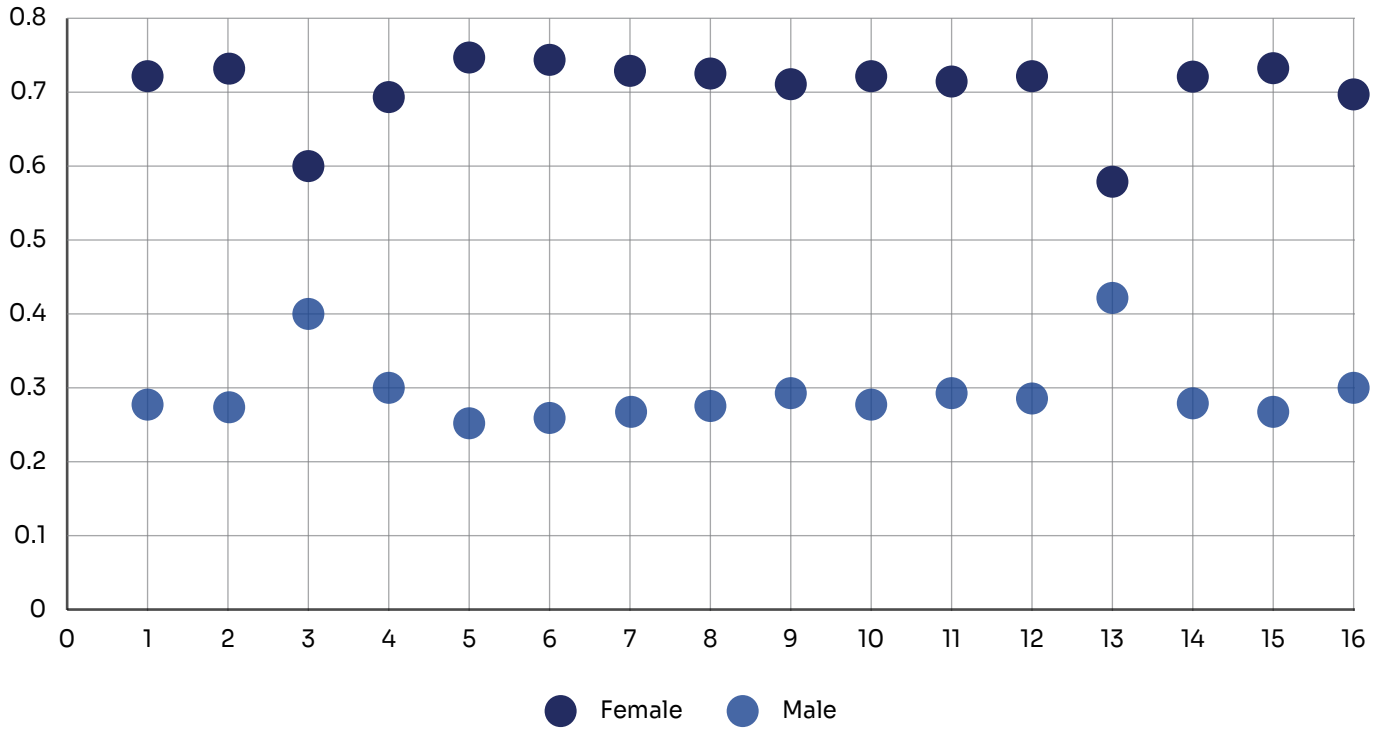


**FIGURE 7**

**Gender Ratio in Master's Enrollment by Region (SY 2023-2024)**




*Legend:*

*1 Ilocos Region*
*2 Cagayan Valley*
*3 Central Luzon*
*4 CALABARZON*
*5 Bicol Region*
*6 Western Visayas*
*7 Central Visayas*
*8 Eastern Visayas*
*9 Zamboanga Peninsula*
*10 Northern Mindanao*
*11 Davao Region*
*12 SOCCKSARGEN*
*13 NCR*
*14 Cordillera Administrative Region*
*15 CARAGA*
*16 MIMAROPA*

Meanwhile, out of the 40,383 doctoral students enrolled in the same SY, 24,366 (60.33%) were females and 16,017 (39.67%) were males as shown in Figure 8. However, when disaggregated by region, gender ratio among doctoral students are more varied. Nonetheless, in Figure 9, it can be observed that the gap between male and female is widest in Region I (Ilocos Region) and Region XII (Soccsksargen). Meanwhile, this gap is narrower in Region XI (Davao Region), CALABARZON, Region III (Central Luzon) and NCR.

**FIGURE 8**

**Doctoral Enrollment - Region and Sex Disaggregation (SY 2023-2024)**

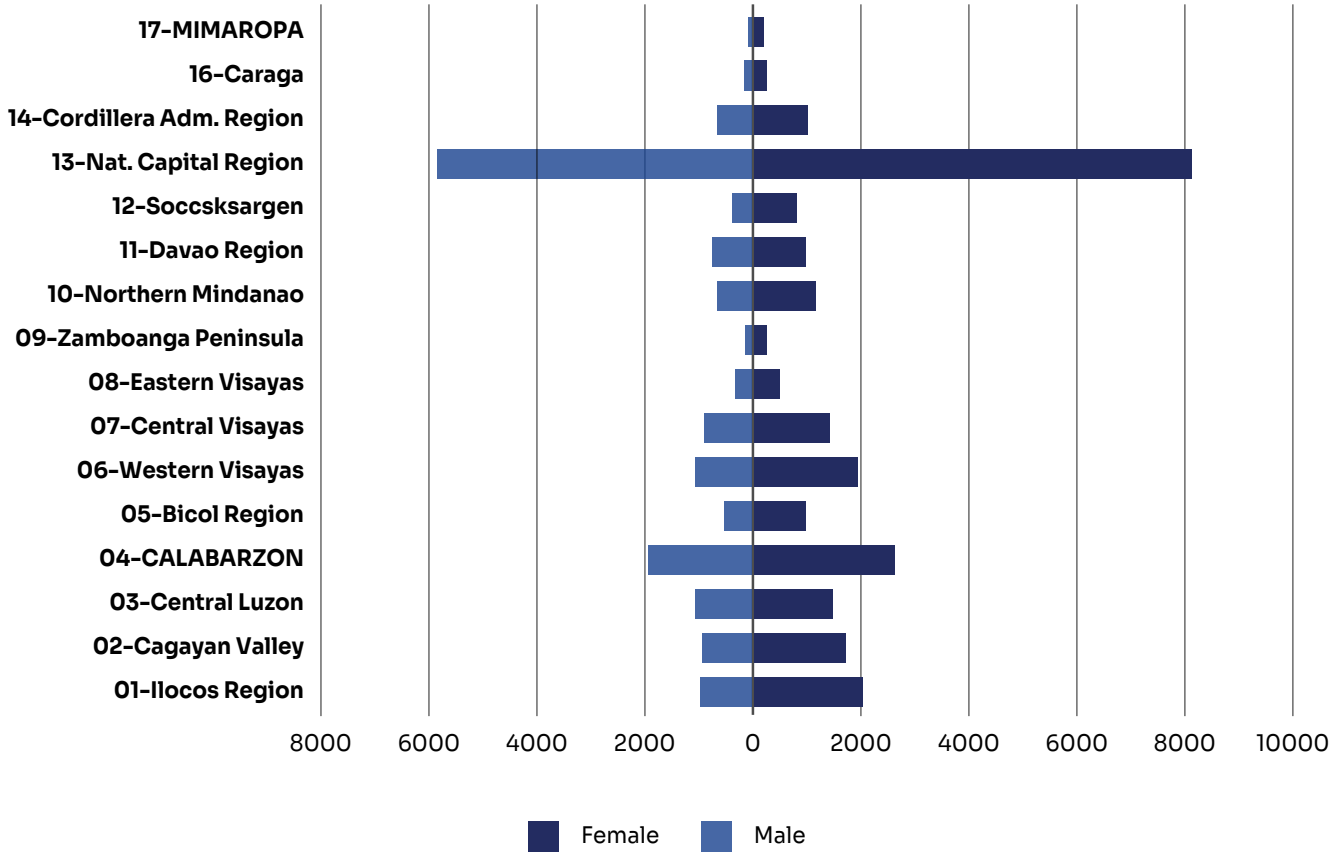
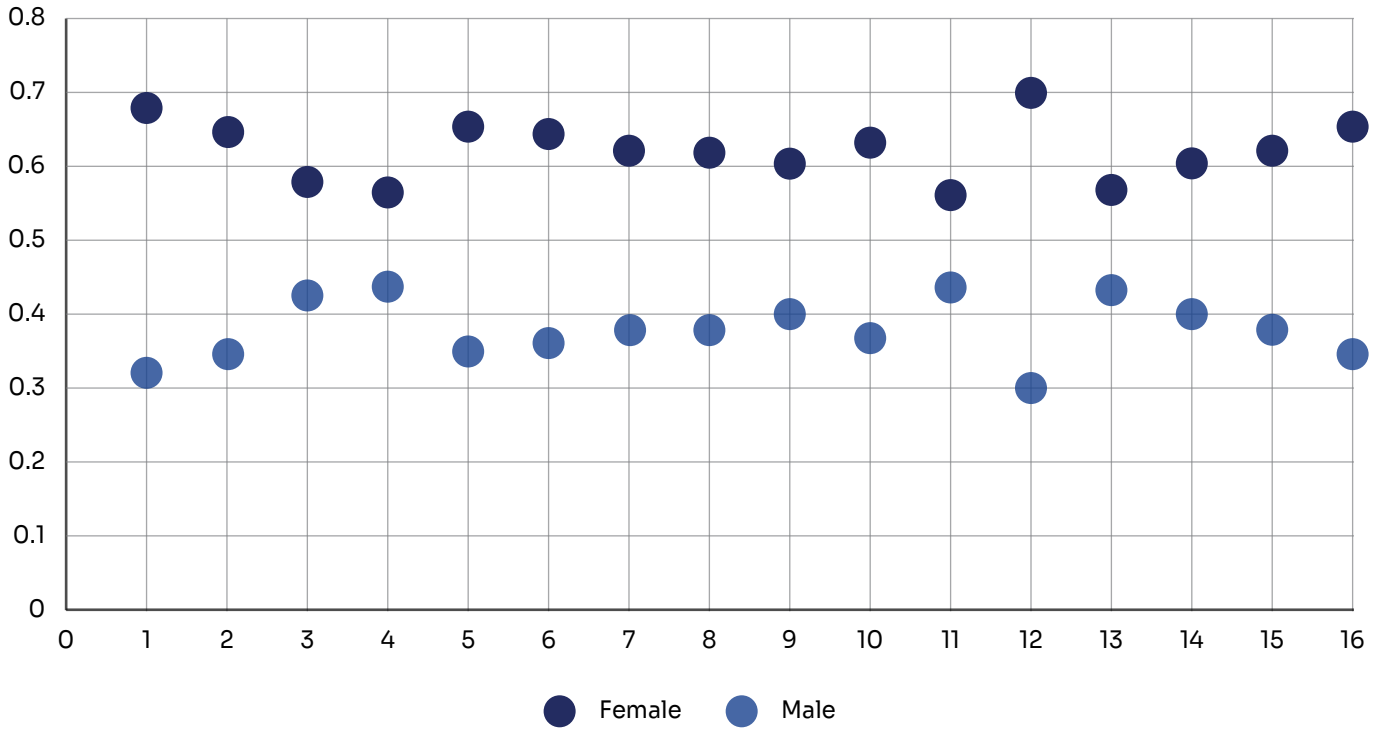



**FIGURE 9**

**Gender Ratio in Doctoral Enrollment by Region (SY 2023-2024)**

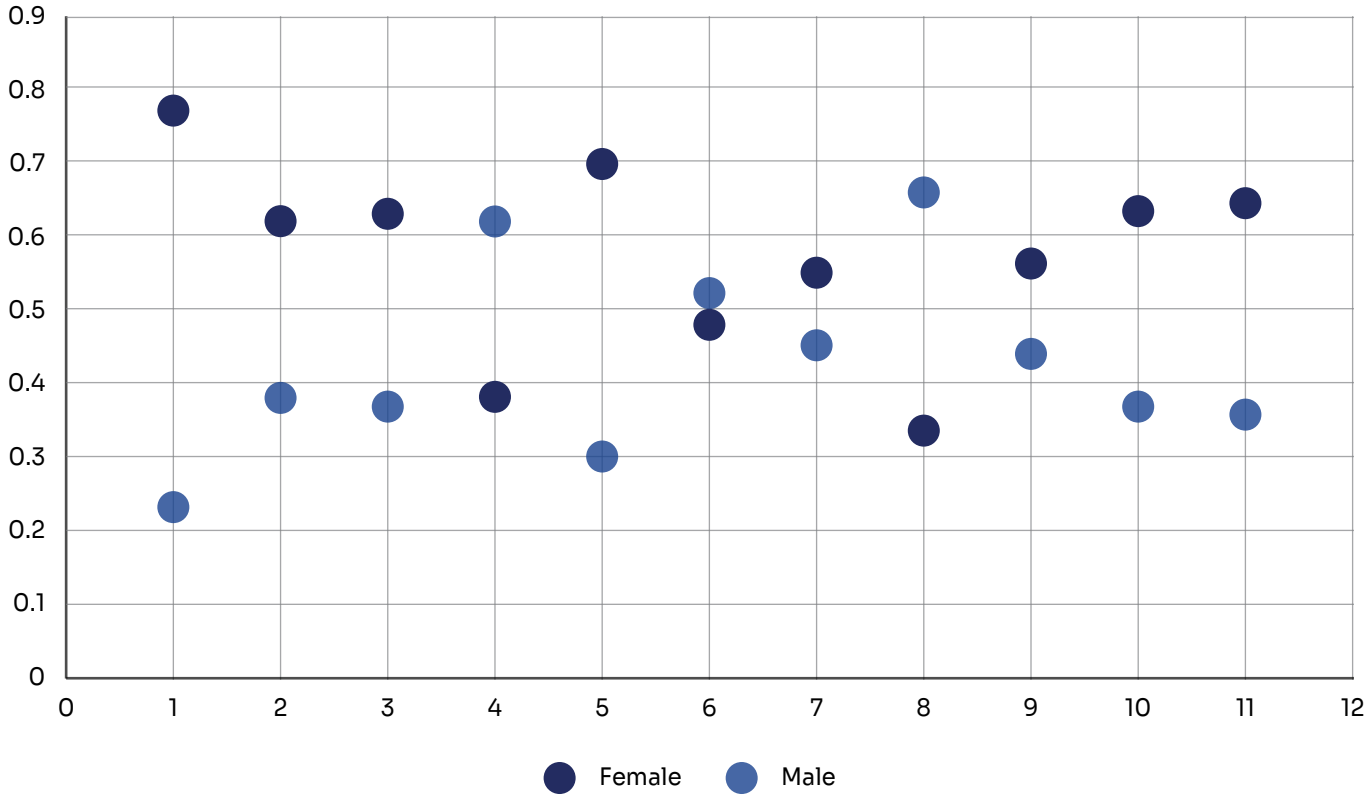



*Legend:*

| | | | | | |
|---|---|---|---|---|---|
| *1* | *Ilocos Region* | *7* | *Central Visayas* | *12* | *SOCCKSARGEN* |
| *2* | *Cagayan Valley* | *8* | *Eastern Visayas* | *13* | *NCR* |
| *3* | *Central Luzon* | *9* | *Zamboanga Peninsula* | *14* | *Cordillera Administrative Region* |
| *4* | *CALABARZON* | *10* | *Northern Mindanao* | *15* | *CARAGA* |
| *5* | *Bicol Region* | *11* | *Davao Region* | *16* | *MIMAROPA* |
| *6* | *Western Visayas* | | | | |

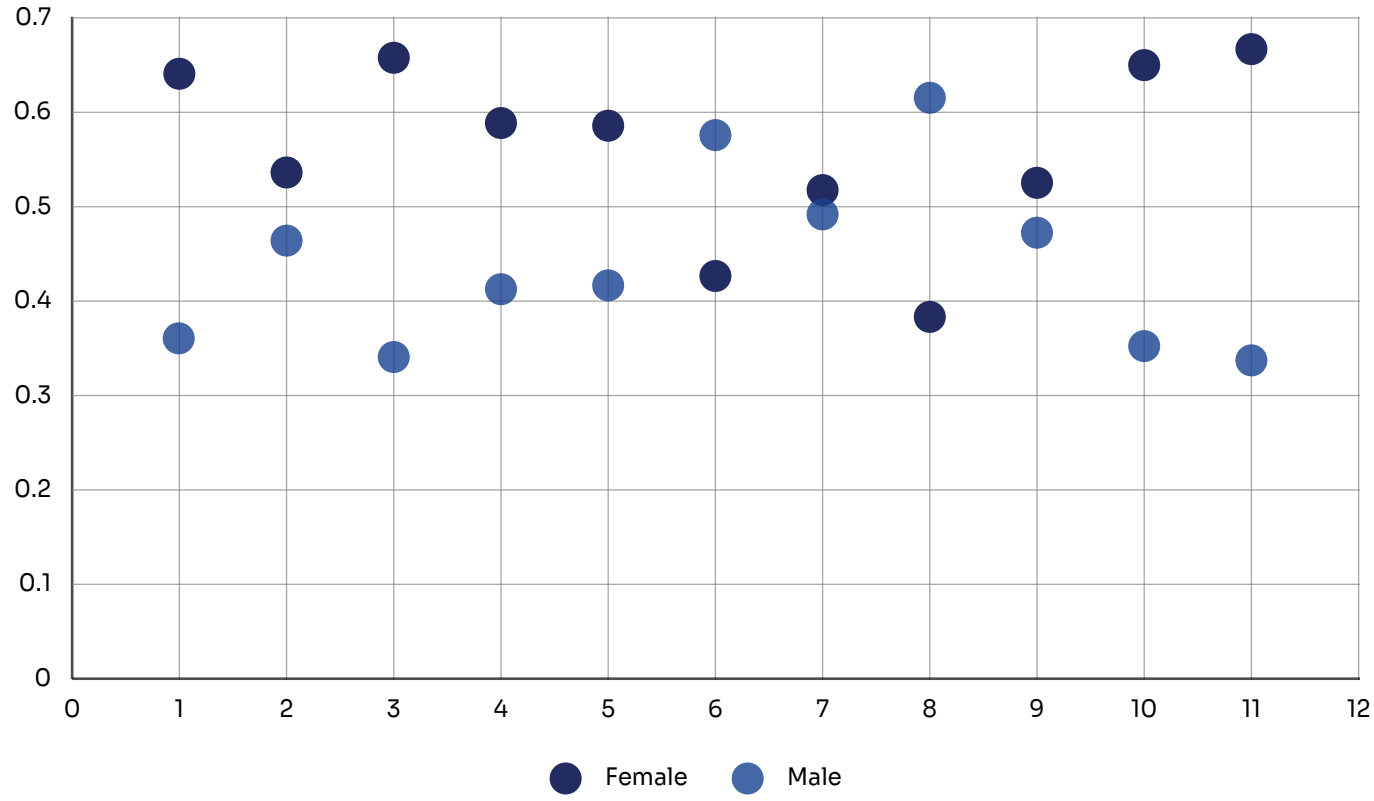
Looking at the gender ratio by discipline group in Figure 10, Engineering, Manufacturing and Construction has the lowest gender parity among enrolled master's students; where the ratio of females and males is almost 50/50. Education has the widest parity, where close to 80% of enrolled students are females. However, this is reversed in ICTS, where there are more males than females with a ratio of 3:1.

**FIGURE 10**
**Gender Ratio in Master's Enrollment by Discipline Group (SY 2023-2024)**




At the doctoral level, there is almost a 1:1 ratio of female and male students in the Natural Sciences, Mathematics and Statistics. In addition, Health and Welfare-related programs have the highest ratio of female to male at 3:1. Finally, there are more male than female students in ICTS and Engineering, Manufacturing and Construction as seen in Figure 11.

**FIGURE 11**
**Gender Ratio in Doctoral Enrollment by Discipline Group (SY 2023-2024)**




*Legend:*
*1 Education*
*2 Business, Administration and Law*
*3 Health and Welfare*
*4 Arts and Humanities*
*5 Social Sciences, Journalism and Information*
*6 Engineering, Manufacturing and Construction*
*7 Natural Sciences, Mathematics and Statistics*
*8 Information and Communication Technologies (ICTS)*
*9 Agriculture, Forestry, Fisheries and Veterinary*
*10 Services*
*11 Generic Programmes and Qualifications*

## On-Time Completion

Since there is no available data on dropout and cohort survival, the researchers used the existing enrollment and graduation data to illustrate how many graduate students are unable to complete their degrees on time. Since maximum residency policy varies across HEIs in the country, this study used CHED and DOST scholarship contract periods of two (2) years for Master's degree and four (4) years for Doctoral degree to approximate the prescribed period of completion time.

The dataset's midpoint, SY 2016-2017, was used as a basis to create hypothetical cohorts in order to determine the percentage of students who are able to complete on time.

The formula used to compute for the percentage of students who achieved on time completion are the following:

A. Master's

$$\frac{\text{[Graduation Data (SY A+2)]}}{\text{[Enrollment Data (SY A)]}} * 100$$

B. Doctoral

$$\frac{\text{[Graduation Data (SY A+4)]}}{\text{[Enrollment Data (SY A)]}} * 100$$

For Masters, 3 hypothetical cohorts were created:

1. Cohort A: SY 2014-2015 to SY 2016-2017
2. Cohort B: SY 2016-2017 to SY 2018-2019
3. Cohort C: SY 2020-2021 to SY 2022-2023 (pandemic)

For Doctoral, 2 hypothetical cohorts were created:

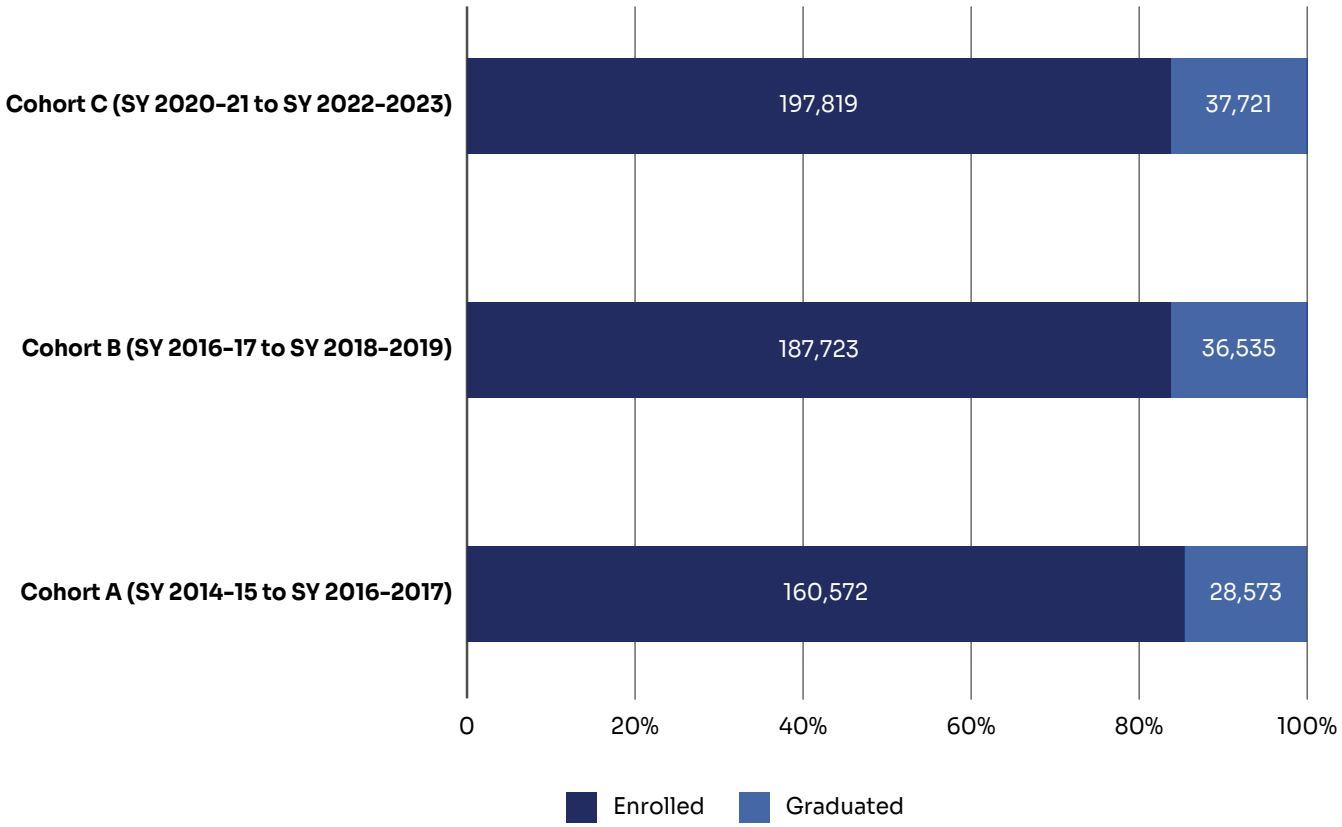
1. Cohort A: SY 2012-2013 to SY 2016-2017
2. Cohort B: SY 2016-2017 to SY 2020-2021

Since these are hypothetical cohorts, certain limitations to the results presented below should be noted. First, graduation data may include students who enrolled in the programs earlier than the cohort's. This may inadvertently inflate the actual count of graduates for the cohort. Second, these are aggregated data, not individual data. Hence, shifting from one degree to another, leave of absence and dropouts cannot be determined accurately to correct cohort size. Nonetheless, the data presented below are indicative of a deeper crisis and may therefore provide valuable insights for future policy development.

In general, 8 out of 10 graduate students are not able to complete their degree programs within the prescribed period based on CHED and DOST scholarship regulations.

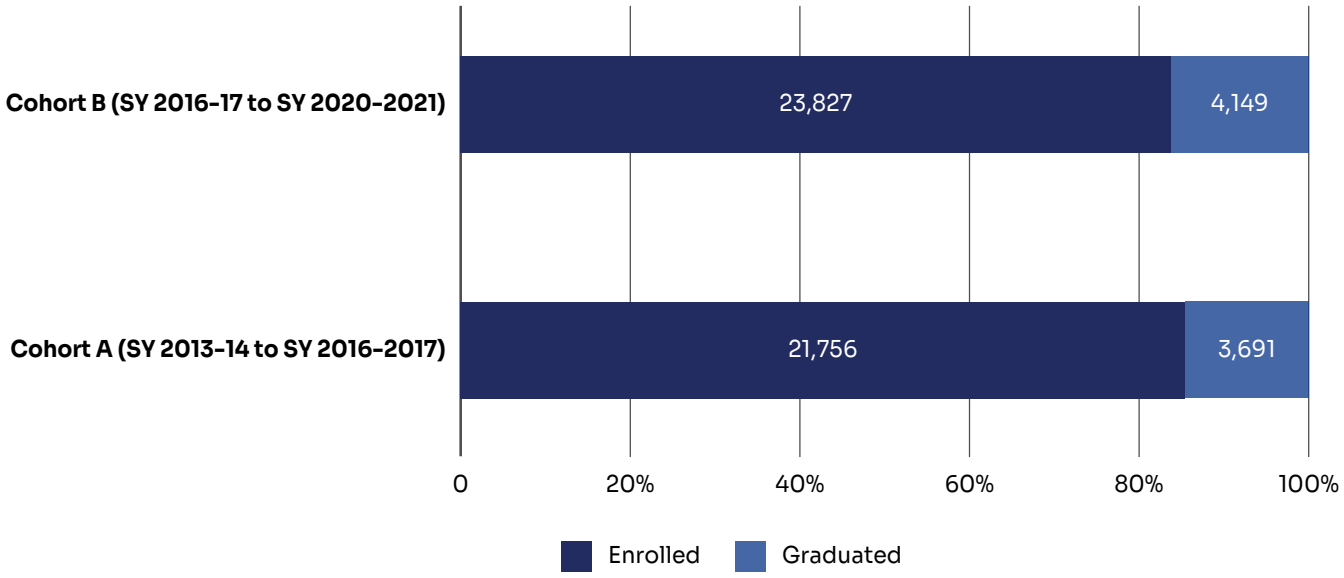
Particularly for Master's level, an average of 18.77% of students are able to complete their degrees within 2 years across the 3 cohorts (Figure 12). Even for the "pandemic" cohort, the percentage of students who are not able to complete on time (19.07%) is almost similar to that of the pre-pandemic cohort (19.46%).

**FIGURE 12**
**Comparative On-Time Completion Rate in the Master's Level**



For Doctoral students, on the average, only 17.19% are able to complete their degrees on time for both cohorts as seen in Figure 13.

**FIGURE 13**
**Comparative On-Time Completion Rate in the Doctoral Level**




This study also looked at on-time completion rates based on Discipline Group. For Master's level, Business, Administration and Law had the highest percentage of students who are able to complete their degrees on time for both Cohorts, although on-time completion rate decreased from 28.82% to 22.37% during the pandemic. On-time completion rate in Education increased to 18.86% during the pandemic, compared to 17.24% for the pre-pandemic Cohort.

For STEM related disciplines, ICT remained constant, Engineering decreased from 17.91% (pre-pandemic) to 13.39% during the pandemic. Meanwhile Natural Sciences, Mathematics and Statistics slightly increased from 13.05% to 13.35%.

**TABLE 2**

**On-Time Completion Rate of Master's Students by Discipline Group Across 2 Cohorts**

| Discipline Group | COHORT B | | | COHORT C | | |
|---|---|---|---|---|---|---|
| | Enrollment SY 2016-2017 | Graduation SY 2018-2019 | On Time Completion | Enrollment SY 2020-2021 | Graduation SY 2022-2023 | On Time Completion |
| Education | 103,420 | 17,833 | 17.24% | 108,967 | 20,554 | 18.86% |
| Business, Administration and Law | 40,894 | 11,787 | 28.82% | 46,741 | 10,454 | 22.37% |
| Health and Welfare | 12,604 | 2,179 | 17.29% | 9,100 | 1,480 | 16.26% |
| Engineering, Manufacturing and Construction | 6,928 | 1,241 | 17.91% | 7,902 | 1,058 | 13.39% |
| Social Sciences, Journalism and Information | 6,083 | 987 | 16.23% | 6,814 | 946 | 13.88% |
| Arts and Humanities | 5,533 | 722 | 13.05% | 6,163 | 816 | 13.24% |
| Natural Sciences, Mathematics and Statistics | 4,140 | 631 | 15.24% | 4,543 | 636 | 14.00% |
| Information and Communication Technologies | 3,616 | 555 | 15.35% | 3,855 | 590 | 15.30% |
| Agriculture, Forestry, Fisheries and Veterinary | 3,318 | 514 | 15.49% | 2,996 | 551 | 18.39% |
| Services | 672 | 80 | 11.90% | 655 | 520 | 79.39% |
| Generic Programmes and Qualifications | 515 | 6 | 1.17% | 83 | 116 | 139.76% |
| **Overall Average** | | | **15.43%** | | | **33.17%** |
| **Overall Average (minus Services and Generic Programmes)** | | | | | | **16.19%** |

Since CHED categorized the discipline group differently prior to SY 2014-2015, the hypothetical cohort for Doctoral students was modified for consistency of discipline groupings. This study also added Cohort B.1 to capture the school years where the majority of graduate classes were held fully online.

**TABLE 3**

**On-Time Completion Rate of Doctoral Students by Discipline Group Across 3 Cohorts**

| Discipline Group | COHORT A.1 | | | COHORT B (Pandemic) | | | COHORT B.1 (prior to CMO 16 s. 2022) | | |
|---|---|---|---|---|---|---|---|---|---|
| | Enrollment SY 2015-2016 | Graduation SY 2019-2020 | On Time Completion | Enrollment SY 2016-2017 | Graduation SY 2020-2021 | On Time Completion | Enrollment SY 2018-2019 | Graduation SY 2022-2023 | On Time Completion |
| Education | 11,870 | 2,635 | 22.20% | 13,333 | 2,566 | 19.25% | 16,910 | 3,276 | 19.37% |
| Business, Administration and Law | 3,827 | 921 | 24.07% | 4,141 | 771 | 18.62% | 6,079 | 1,016 | 16.71% |
| Health and Welfare | 1,797 | 321 | 17.86% | 2,679 | 321 | 11.98% | 2,229 | 669 | 30.01% |
| Engineering, Manufacturing and Construction | 1,350 | 203 | 15.04% | 1,041 | 161 | 15.47% | 1,335 | 533 | 39.93% |
| Social Sciences, Journalism and Information | 1,258 | 134 | 10.65% | 775 | 123 | 15.87% | 926 | 250 | 27.00% |
| Arts and Humanities | 936 | 116 | 12.39% | 508 | 85 | 16.73% | 603 | 148 | 24.54% |
| Natural Sciences, Mathematics and Statistics | 547 | 90 | 16.45% | 473 | 51 | 10.78% | 592 | 110 | 18.58% |
| Information and Communication Technologies (ICTS) | 381 | 83 | 21.78% | 440 | 41 | 9.32% | 583 | 99 | 16.98% |
| Agriculture, Forestry, Fisheries and Veterinary | 306 | 56 | 18.30% | 377 | 17 | 4.51% | 512 | 85 | 16.60% |
| Services | 197 | 4 | 2.03% | 45 | 13 | 28.89% | 62 | 61 | 98.39% |
| Generic Programmes and Qualifications | 1 | | 0.00% | 15 | 0 | 0.00% | 0 | 3 | |
| **Overall Average** | | | **14.62%** | | | **13.76%** | | | **30.81%** |
| **Overall Average (minus Services and Generic Programmes)** | | | | | | **13.61%** | | | **23.30%** |

For Doctoral level, Engineering, Manufacturing and Construction increased on-time completion rate from 15.04% before the pandemic to 39.93% during the period when most of the classes were held online. The increase in on-time completion rate is also seen in Health and Welfare (30.01%), Social Sciences, Journalism and Information (27.00%) and Arts and Humanities (24.54%). For Education, where the most number of students are enrolled, on-time completion rate only dipped a little from 22.20% before the pandemic to 19.37% during the pandemic and prior to the implementation of CMO 16 series 2022. This is the same for Business, Administration and Law. For Natural Science, Mathematics and Statistics, on-time completion rate dropped to 10.78% from 16.45% at the onset of the pandemic. This is the same case for ICTS. Fortunately, on-time completion rate for both discipline groups increased to almost the same rate as their pre-pandemic for Cohort B.1.

## Exogenous Disruptions that Affected Graduate Education

In the past 10 years, there were four significant events that affected graduate education in the country:

a. **SY 2016-2017:** Full implementation of the Senior High School in the country led to a significant drop in college first year enrollment. As part of the transition program[2] of the government, CHED provided scholarships for faculty members in colleges and universities so they can pursue graduate studies during this time.

b. **SY 2020-2021:** All schools and HEIs were closed due to the COVID-19 pandemic. During this time, all undergraduate and graduate programs started to implement a fully online modality to ensure learning continuity.

c. **SY 2022-2023:** CHED released CMO 16 series 2022 that required all HEIs to conduct at least 50% of their classes onsite, practically prohibiting fully online delivery of programs beginning the second semester of SY 2022-2023.

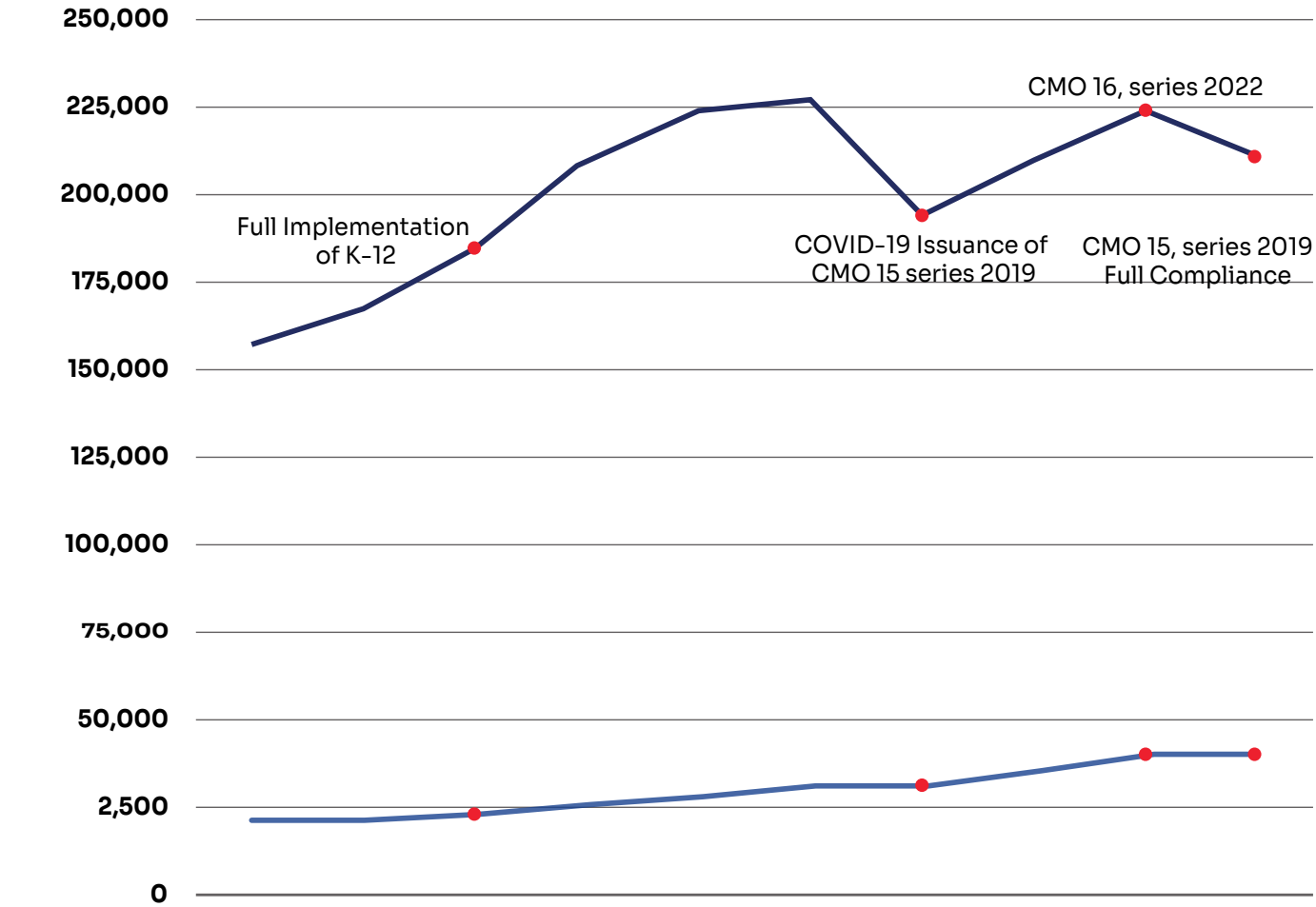
d. **SY 2020-2021:** CMO 15 series 2019, which introduces significant changes in graduate education in the country, takes effect. Putting research and publication in the center of graduate programs, this CMO set a higher requirement for graduate school administrators and faculty eligibility, resource and infrastructure, and curriculum standards. HEIs were given 3 years to comply with these standards. Full compliance began in SY 2023-2024.

From Figures 14 and 15, enrollment and graduation[3] at the master's level grew rapidly after SY 2016-2017 when CHED and DOST boosted their graduate scholarship programs to support teaching staff who were affected by the full-implementation of K-to-12. Then these dropped at the onset of COVID-19 pandemic. However, enrollment climbed again after this period as classes continued to be offered exclusively only in compliance with public health and safety guidelines at that time. When CHED released CMO 16 in 2022 and mandated all universities to conduct at least 50% of the classes onsite, master's enrollment decreased again.

2 *The K to 12 transition spans a five year period between 2016 to 2021.*
3 *Graduation data available from CHED is only up to SY 2022-2023.*

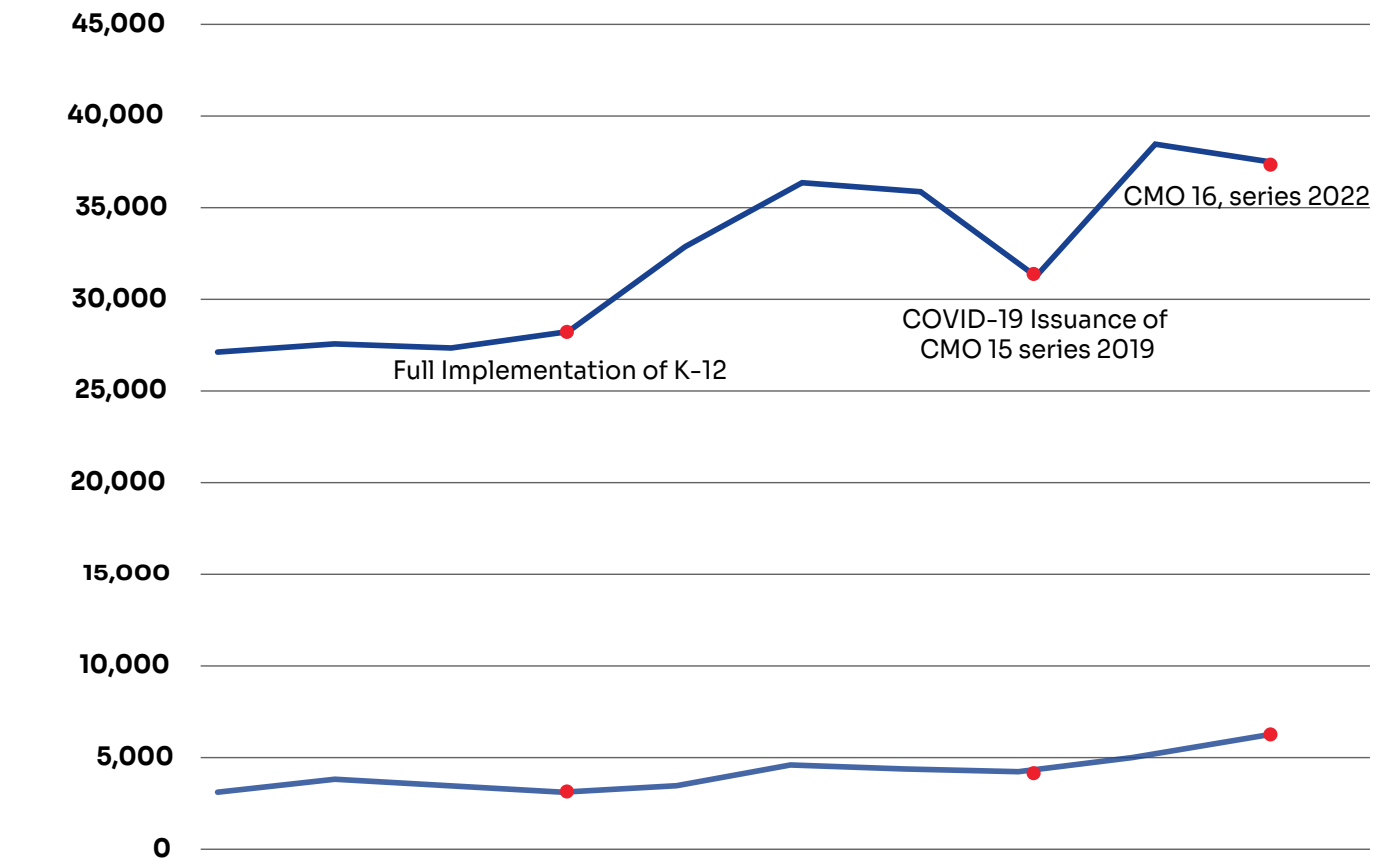
**FIGURE 14**

**Ten-Year Enrollment Trends (Master's and Doctoral)**




| | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 |
|---|---|---|---|---|---|---|---|---|---|---|
| Master's | 160,572 | 170,591 | 187,723 | 214,540 | 228,145 | 231,859 | 197,819 | 212,784 | 228,602 | 214,487 |
| Doctoral | 22,919 | 22,470 | 23,827 | 26,961 | 29,831 | 32,333 | 32,470 | 37,005 | 41,012 | 40,383 |

**FIGURE 15**
**Ten-Year Graduation Trends (Master's and Doctoral)**




| | 2013-14 | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 |
|---|---|---|---|---|---|---|---|---|---|---|
| Master's | 27,320 | 27,606 | 27,521 | 28,573 | 33,535 | 36,535 | 35,966 | 31,743 | 38,889 | 37,721 |
| Doctoral | 3,247 | 3,823 | 3,254 | 3,691 | 3,214 | 4,563 | 4,297 | 4,149 | 41,012 | 40,383 |

In contrast, there is modest increase in both enrollment and graduation at the doctoral level despite these systemic external factors. Hence, it can be deduced that master's programs were more sensitive to external events compared to doctoral programs.

The full data on Master's and Doctoral enrollment and graduation disaggregated by School Year and Region can be found in the Appendix.

# A View from Below (Qualitative Data)

Themes from the FGD data were identified in relation to the study's two core questions - what drives demand for graduate education and what challenges it faces. To remain true to the intent and nature of this study, we identified four main findings with clear policy implications.

## Policy Incentives Sustain Demand in Graduate Fields of Teacher Education and Business Administration

Public and education sector policies continue to encourage enrollment in teacher education and business administration programs. In all regions, public school teachers account for the largest number of graduate student enrollments, DepEd being the office with the most number of personnel and the widest reach. Meanwhile, promotion to supervisory positions in the public sector requires graduate degrees in administration-related fields, in particular Public Administration or Public Management.

An unintended consequence of this is that current policies do not discriminate where graduate credits and degrees were earned (see, for example, DepEd Order No. 66, series 2007, DepEd Order No. 7, series 2015 and DepEd Order No. 7, series 2023). This has encouraged the proliferation of diploma mills in teacher education and Public Administration-related graduate programs. One participant said: "*Kahit saan ako mag Master's, mapo-promote naman ako.* This explains why we lack teachers who are competent in more specialized fields."

## Vertical Qualification Requirements Drive Teacher Education Enrollments

The demand for teacher-related graduate degrees remains strong due to promotion policies that require advanced qualifications aligned with their Bachelor's degrees. Vertical alignment in graduate degrees, particularly for teaching positions, generally refers to the practice of requiring teachers and faculty members to hold degrees in the same or closely related fields for their bachelor's, master's, and doctoral degrees (ILO, 2014). This is often seen as a way to ensure depth of knowledge and expertise in a specific discipline.

However, vertical alignment of advanced degree programs disincentivizes teachers in basic education to pursue specialized master's and doctoral degrees (particularly in STEM) because their Bachelor's degrees are often broad (ex: Bachelor in Elementary Education; Bachelor in Secondary Education, major in Teaching Science). In addition, teachers with limited specialization training in their undergraduate degrees find the transition to a specialized graduate degree challenging. Meanwhile, in higher education, vertical alignment can hinder innovation and interdisciplinary exploration, which are critical in the production of new knowledge, a major aim of graduate education.

## Graduate Program Demand Responds to Economic and Administrative Needs

Regional and sectoral economic activity shapes the demand for graduate degrees in administration, both public and private. Periods of industrial growth or restructuring

often lead to a heightened demand for advanced qualifications as employers seek individuals with specialized competencies to address evolving workforce needs. Consequently, graduate program enrollment tends to mirror prevailing industry trajectories and labor market demands, underscoring the need for academic institutions to remain adaptive to external economic developments.

For example, the sustained need for professionals to take advanced management graduate degrees reflects the employment requirements of the service sector, a major driver of the Philippine economy. One participant from the Visayas confirmed this, citing that when regional offices of government agencies transferred to their province, the universities saw an increase in enrollment in graduate degrees in Public Administration and Management.

Tuaño et al. (2024) utilized simulation models to project employment trends from 2024 to 2040 under both high-growth and low-growth economic scenarios. In the service sector (Figure 1 in Appendix), Trade is expected to experience the highest growth, followed by Transport and Public Administration. Within the industry sector (Figure 2 in Appendix), the most substantial projected growth is in Electricity, Textiles, and Wood processing. For the agriculture sector (Figure 3 in Appendix), Palay, Fish, and Other Crops are anticipated to lead in employment growth. Regionally, their study forecasts the highest employment expansion in Region IV-A (Calabarzon), Region III (Central Luzon), and the National Capital Region (NCR).4

## Flexible and Accessible Learning Modalities Matter to Working Professionals

Accessibility of graduate programs refers to both location and delivery mode. Most graduate students are working professionals who prioritize geographic convenience and flexible delivery formats in choosing programs.

According to several participants, due to the high cost of inter-island transportation (particularly in the Visayas) and underdeveloped transportation infrastructure (especially in Mindanao), graduate students prefer colleges and universities that are geographically close to their homes or workplaces. Moreover, preference is for hybrid or fully online classes since this allows them to manage personal, professional and academic obligations better. However, weather disturbances (typhoons and droughts), peace and order situation, intermittent electricity supply and unstable internet connectivity still pose a challenge to the implementation of blended learning.

All four FGD groups brought up the proliferation of unaccredited fully online graduate degree programs as a cause of concern. When CMO 16 series of 2022 was released, HEIs that complied with the minimum 50% onsite conduct of classes lost students to institutions that continue to offer fully online programs despite CHED's order.

4 *Figures are provided in the Appendix.*

# Policy Implications

The current situation of graduate education in the Philippines as described by both quantitative and qualitative data is not accidental. These are consequences of past policies in education that are both intended and unintended. Policies also impact both outcomes and stakeholders since many of these aim to alter behavior of the institutions as well as the agents (graduate students).

This section enumerates five issues that require attention:

1. **Graduate education is highly privatized and NCR-centric**. Based on CHED data, the densest concentration of graduate programs and the highest number of enrollment is in NCR, where the cost of living is high. In addition, 6 out of 10 universities that offer graduate programs are private. Consequently, privatization increases the cost of education and prioritizes popular or high-return programs. If a graduate program has very little demand, even if these are innovative and novel, this will most likely be not offered. As one participant in the FGDs put it: "Even if we want to [offer programs in other fields], we cannot... [we have] no choice." Being concentrated in the National Capital Region also limits the accessibility of graduate programs to low-income students or those living in remote areas. Finally, it can lead to underdevelopment of the regional HEI ecosystem due to regional brain drain. Graduate studies must be strategically leveraged to effectively support regional and provincial development and planning. To realize this potential, targeted research - one that analyzes the landscape of local employment opportunities and career pathways - is essential. This will not only prevent brain drain, but more importantly, will serve as a foundation for a proactive approach to local human capital development.

2. **Teacher promotion policies in basic education and higher education challenges the growth of more specialized graduates, particularly those related to STEM.** As mentioned above, current DepEd policies on hiring, ranking and promotion do not discriminate where graduate credits and degrees were earned. Specialized degrees are also not a requirement. As long as public school teachers can present documents that will show they have satisfied the credits and/or degree requirements, then they will earn the equivalent points for promotion. This also explains why we lack teachers who are competent in more specialized fields, which is confirmed by a finding in a previous EDCOM II study which suggests that our public high schools lack science teachers with the appropriate specialized degree.

   Meanwhile in higher education, CMO 15 series of 2019 requires at least four (4) full-time faculty with doctoral degrees in the discipline and with published works for each graduate program, while DBM-CHED Joint Circular No. 3, series 2022 requires a doctorate that is vertically articulated with the master's degree as a minimum qualification for higher ranks in SUCs. Since the largest number of Master's and Doctorate graduates our country produces are in the fields of Education or Administration, this means there are not enough graduates with

competencies in specialized fields. This poses a challenge in hiring enough teachers who can teach these fields in basic and higher education.

3. **Gender disparities in graduate education across regions and disciplines indicate unequal access to advanced education.** As seen in the data above, women are often underrepresented in STEM (science, technology, engineering, mathematics) and overrepresented in fields with lower economic returns such as education and health sciences. This imbalance may perpetuate gender wage gaps, unequal access to leadership roles, and limited diversity in innovation and research.

4. **Master's programs are more sensitive to exogenous factors and shocks.** Many pursue master's for immediate career advancement, making them responsive (and susceptible) to market conditions. On the other hand, doctoral programs are more insulated to shocks, perhaps because they have longer time horizons and receive more sustained support from both the public and private sector. In contrast, master's programs are typically expected to be completed in less time. However, it should be noted that on-time completion rates for both master's and doctoral programs remain alarmingly low.

5. **The unequal distribution of graduate programs across regions challenges the capability-building goals of universities and colleges in many communities.** This inequality is further exacerbated by the country's underdeveloped road and transportation infrastructure. Hence, it is not surprising therefore that the enrollment trend data indicates preference for more flexible modality of learning delivery.

# Policy Recommendations

CHED Memorandum Order 15 series of 2019 envisions graduate programs in the Philippines as drivers of a knowledge-based economy - one that emphasizes innovation, research, and development and a highly-skilled workforce. However, this study reveals that the challenges to graduate education are structural and systemic. Failing to address these underlying inequalities will hinder the country's progress in achieving a sustainable knowledge-based economy.

The following are policy recommendations that target systemic and structural inequalities:

1. **Review the impact of vertical alignment of graduate degrees in basic education and higher education.**

   While the need for a vertical alignment of bachelor's, master's and doctoral degrees are valuable in higher education, this may not be as helpful in basic education. In the short term, effective leadership is needed to address the horizontal mismatch[5] in basic education and to encourage innovation and creativity in Higher Education (i.e., considering graduate degrees outside of one's discipline). In the medium term, policies that require strict vertical alignment either for promotion or admissions to STEM and other specialized graduate degrees should be reviewed in order to align with the current conditions and needs of our educational institutions and national development goals. Professional licensure that requires a master's degree should also be reviewed, especially when the need to deploy these specialists is immediate (such as Psychologists for Schools). For this conversation to happen, a healthy balance of discipline expertise (depth) and interdisciplinary thinking (breadth) in the CHED Technical Panels is a good starting point. Currently, the 91 Technical Panels are discipline-based. There is no question about the benefits of having such panels in improving the quality of higher education programs. However, this may result in a siloed approach to policymaking that may fail to address the complex, interdisciplinary nature of educational challenges while also limiting the capacity for systemic innovation. Therefore, spaces should be created for interdisciplinary TPs to emerge, at least for the purposes for policy development that cuts across traditional disciplines. Lastly, it is important to consciously align graduate education policy objectives with current realities and needs. Regular dialogues with HEIs in the regions should be conducted, not only for the purposes of getting feedback for an upcoming policy and standards, but for progress review and continuous improvement.

5 *According to the International Labor Organization (2014), a horizontal mismatch occurs when a person's degree, abilities or field are inappropriate for the position. In contrast, a vertical mismatch is when the education qualification level is either lower or higher than what is necessary.*

2. **DepEd should consider the quality of HEI and graduate programs for career progression purposes.**

   Current policies (DepEd Order No. 66, series 2007, DepEd Order No. 7, series 2015 and DepEd Order No. 7, series 2023) and proposed legislation (HB 10270, SB 3000) on Teacher Career Progression require graduate coursework for promotion, but do not mandate that these credits or degrees be earned from accredited or high-quality institutions. This potentially undermines the effort to ensure teacher competency and educational standards in our public schools. It is recommended in the short term that only degrees from CHED-recognized HEIs be considered for promotion. In the medium-term, consider giving higher points to degrees from deregulated and autonomous HEIs, degree programs from COE/COD, and/or those that are locally or internationally accredited or assessed.

3. **CHED should adopt a tiered regulatory approach for HEIs offering graduate programs, rather than applying a uniform policy, to account for differences in institutional capacity, program quality and regional context.**

   The intent of CMO 15 series 2019 is commendable, but the minimum requirements expected of HEIs are difficult to achieve. Looking at the data presented in this study, the inequalities present in graduate education--specifically the underrepresentation of certain regions, disciplines and gender--makes compliance to the order almost impossible for HEIs with very limited resources. In the short term, CHED should consider implementing a phased development plan for HEIs, tailored to their current capacities, to support their transition toward full compliance with the requirements of CMO 15 series 2019. This plan should allow temporary adjustments—such as relaxing publication or research output requirements—until institutions have completed their capacity-building efforts. At the same time, deregulated and autonomous universities should be granted greater flexibility to design and deliver innovative graduate programs that address local, regional, and global needs. This could include expedited approval processes for niche programs and targeted funding support for program development.

4. **Strengthen CHED's institutional capacity in the development, monitoring and evaluation of graduate education policies.**

   a) **Improved Data Governance:** In evidence-informed policy-making, the ability of the bureaucracy to learn from its previous shortcomings based on reliable data is critical. Hence, a good supply of quality evidence to effectively govern the Philippines' huge and complex educational system is imperative. It is strongly recommended that CHED's current plantilla of statisticians and data scientists in the central office and regions should be strengthened. For a start, CHED should require HEIs to report data on accreditation, which can be used as a proxy indicator of quality. Second, CHED should regularly publish a "white list" of graduate degree programs to address the proliferation of non-compliant and non-accredited

graduate schools that should not have been permitted to operate in the first place. By extension, improving transparency will facilitate better the evaluation process of teacher promotion in DepEd.

b) **Strengthened Oversight through Targeted Leadership:** Graduate education is a critical driver of national development. Yet, its unique needs are often overshadowed by the broader focus on undergraduate education, largely due to lower enrollment numbers. To ensure graduate programs receive the strategic attention they require, CHED should establish a dedicated Graduate Education Bureau or appoint a Deputy Commissioner for Graduate Education. This focused leadership would provide the necessary oversight to elevate the quality, relevance and impact of graduate education in the country. Hopefully, this will also address the weak recognition of our graduate programs by other countries.

5. **Implement targeted government policies to promote regional and gender equity.** If the choice of graduate school is more about practical accessibility and less about institutional prestige, then the government needs to ensure a diversified graduate degree program landscape in the regions. It would be beneficial to strengthen the connection between HEIs and the Regional Development Councils (RDCs) to ensure that graduate program offerings and outcomes align with regional growth plans especially for master's programs. CHED should also ensure that rural and smaller cities are included in research, innovation, and graduate training ecosystems. This can be done through expanding its support to SUCs and extending public investment to private HEIs. It may also actively include other government agencies in the development and implementation of the graduate education research and development agenda (ex: Bureau of Soils and Water Management for graduate degree programs in Environmental Science and/or Disaster Risk). Aside from this, it is strongly recommended for CHED to offer gender-specific scholarships for women entering male-dominated fields/ disciplines or from underserved regions. To do so, it should collect and regularly analyze sex- and region-disaggregated data on graduate enrollment, completion, and placement across regions and disciplines. These data should then be included as inputs during the crafting of the 5-year roadmap that each of the Technical Panel is tasked to develop as mentioned in CHED Administrative Order 3, series 2019.

6. **Address low on-time completion rate of graduate programs in the country.** The factors that hinder on-time completion of degree programs are complex, given the personal and professional realities of graduate students. This challenge cannot be solved through legislation alone but will require a more long-term and systems approach. In this study, there is some evidence that flexible mode of course delivery is helpful in keeping enrollment constant. In the short term, it is recommended therefore that CHED provide more flexibility to allow HEIs to make use of technology to augment distance and scarcity of

instructional resources. In the medium term, CHED should develop a formula to better capture dropout, cohort survival and completion rates at the graduate level. It might not be precise, but a statistically sound approximation of these indicators will be valuable in determining trends and implementing timely interventions. In the long term, a more in-depth study may be undertaken to have a more nuanced understanding of factors that affect completion.

# Conclusion

Graduate education is a living ecosystem, constantly evolving and reacting to internal and external events. However, policy-making in education is not only linear, but also occurs in silos. Although CHED is the primary agency mandated to supervise graduate education in the country, the policies and actions of other government agencies such as DepEd, PRC, DBM, CSC and the Philippine Congress also significantly influence its direction. While a clearinghouse that will review all policies to prevent overlap, redundancy and contradictions may be helpful, being able to anticipate unintended consequences of policies even before these are implemented is the most useful at this point.

To safeguard graduate education from unnecessary disruptions, the Philippine government should better articulate its strategic role in advancing national Human Capital Development. Beyond simply tracking graduate numbers, research output and degree programs, there is a need to define how graduate education contributes to long-term inclusive growth, local innovation and societal resilience. A more integrated vision and grounded strategy will ensure that graduate education is not only protected, but also empowered.

# Bionotes

Anne Lan K. Candelaria, PhD is an Associate Professor in the Department of Political Science and currently serves as the Assistant Vice President for Graduate Education at the Ateneo de Manila University. In addition to her academic leadership, she actively collaborates with national and regional partners in improving standards of graduate education. Her research expertise spans education governance and reform, public policy, citizenship education and higher education quality assurance, both locally and regionally. She has published several policy papers, peer reviewed works, and articles in public discourse spaces and traditional media outlets.

Eric Arthur N. Dio, PhD is Full Professor in the Graduate School and member of the University of St. La Salle University Research Board. His research expertise spans business, graduate education, job analysis, market studies, feasibility assessments, and program evaluations for private firms, NGOs, MNCs, cooperatives and LGUs. He has published in indexed and peer-reviewed journals, contributing to scholarly discourse in his field. His work supports strategic decision-making, industry development, and policy formulation across various sectors.

Jovelyn G. Delosa, PhD is an Associate Professor in Teacher Education and the Vice-President for Academic Affairs in Northern Bukidnon State College. She previously served as Dean of the School of Education at Xavier University – Ateneo de Cagayan for six years. Her experience spans various areas including measurement and evaluation, curriculum and instruction, educational leadership, and outcomes-based assessment. She has published works on assessment literacy, research self-efficacy, professional identity of teachers, and measurement theories. Her works support leadership development, transformative education, whole person education and global citizenship education. She pioneered programs for instructional excellence, advanced assessment literacy, and built communities of practice that integrated leadership development.

# References

Altbach, P.G., & Salmi, J. (2011). The Road to Academic Excellence: The Making of World Class Research Universities. Washington, D.C.: The World Bank

Aranda, M. R. R., Diaz, L. P. & Altuna, R. B. Graduates programs tracer study: commitment to quality graduate school education. Journal of Sciences, Technology, and Arts Research: A Scholarly Journal, vol 8, Issue 2, 27-39.

Bueno, D. C. (2017). Ascertaining the Curriculum Relevance of the Graduate School through Tracer Study in a Philippine Private Higher Education Institution. JPAIR Multidisciplinary Research, Vol. 28.

Carter, N., Bryant-Lukosius, D., DiCenso, A., Blythe, J., Neville, A. (2014). "The use of triangulation in qualitative research." Oncol Nurs Forum. 41(5): 545-547.

Commission on Higher Education: Online-only learning for colleges, universities no longer allowed next sem. (2022). Philstar Global. Retrieved from https://www.philstar.com/headlines/2022/11/16/2224293/ched-online-only-learning-colleges-universities-no-longer-allowed-next-sem.

Commission on Higher Education. (2019). Memorandum Order No. 15: Policies, Standards and Guidelines for Graduate Programs. Commission on Higher Education. Retrieved from https://www.ched.gov.ph/memo-no-15-2019

Commission on Higher Education. (2023). Retrieved from https://ched.gov.ph/2023-higher-education-facts-and-figures.

Cruz, Thelma DS, and E. Jean DR Ramirez (2016). "Motivation, Satisfaction and Difficulty Encountered by Higher Education Institution in Manila Graduate Students in Pursuing Graduate Studies." International Journal of Scientific and Research Publications 6.6.

Department of Budget and Management & Commission on Higher Education. (2022, October 18). DBM-CHED Joint Circular No. 3, s. 2022: Guidelines on the reclassification of faculty positions in state universities and colleges (9th cycle NBC 461). Pasig City: DBM & CHED

Department of Education (Philippines). (2023, March 22). DepEd Order No. 7 s. 2023: Guidelines on Recruitment, Selection, and Appointment in the Department of Education. Pasig City: Department of Education.

DepEd: Private schools can hold hybrid and remote classes past November 2 (2022, October 17). Retrieved from https://www.philstar.com/headlines/2022/10/17/2217353/deped-private-schools-can-hold-hybrid-and-remote-classes-past-november-2#:~:text=DepEd%3A%20Private%20schools%20can%20hold%20hybrid%20and%20remote%20classes%20past%20November%202,-Philstar.com&text=MANILA%2C%20Philippines%20%E2%80%94%20Private%20schools%20will,Department%20of%20Education%20announced%20Monday.

Department of Education (Philippines). (2015, March 27). DepEd Order No. 7 s. 2015: Hiring Guidelines for Teacher I Positions, effective School Year 2015–2016. Pasig City: Department of Education.

Department of Education (Philippines). (2007, September 17). DepEd Order No. 66, s. 2007: Revised Guidelines on the Appointment and Promotion of Other Teaching, Related Teaching, and Non-Teaching Positions. Pasig City: Department of Education, Philippines.

Department of Education. (2018, August 16). DepEd, DOST ink pact to further science, math education of teachers, learners. https://www.deped.gov.ph/2018/08/16/deped-dost-ink-pact-to-further-science-math-education-of-teachers-learners/

European Ministers of Education. (1999). The Bologna Declaration of 19 June 1999: Joint declaration of the European Ministers of Education. https://www.ehea.info/page-ministerial-declarations

Fajčíková, A., & Urbancová, H. (2019). Factors Influencing Students' Motivation to Seek Higher Education—A Case Study at a State University in the Czech Republic. Sustainability, 11(17), 4699. https://doi.org/10.3390/su11174699

Greene, Carol, et al. (Winter 2020). "What Factors Influence Motivation for Graduate Education?" Critical Questions in Education, 11(1), pp. 21+.

Guri-Rosenblit, S. (2015). Internationalization of Higher Education: Navigating Between Contrasting Trends. In: Curaj, A., Matei, L., Pricopie, R., Salmi, J., Scott, P. (eds) The European Higher Education Area. Springer, Cham. https://doi.org/10.1007/978-3-319-20877-0_2

Hancock, S. (2023). "Knowledge or science-based economy? The employment of UK PhD graduates in research roles beyond academia". Studies in Higher Education, 48(10), 1523-1537.

International Labor Organization. (2014). Skills mismatch in Europe. International Labour Organization. Available at: https://www.ilo.org/media/447431/download. Accessed 23 June 2025.

Jung, J., & Soo, J. L. (2019). "Exploring the factors of pursuing a master's degree in south korea". Higher Education, 78(5), 855-870. doi: https://doi.org/10.1007/s10734-019-00374-8

Klemenčič, M., and F. M. Galán Palomares. (2017). "Transnational Student Associations in the European Multi-level Governance of Higher Education Policies." European Educational Research Journal 17 (3): 365–384.

Kyvik, S., & Olsen, T. B. (2012). The relevance of doctoral training in different labour markets. Journal of Education and Work, 25(2), 205–224.

Li, J., Xue, E., Wei, Y., & He, Y. (2024). How popularising higher education affects economic growth and poverty alleviation: Empirical evidence from 38 countries. Humanities and Social Sciences Communications, 11(1), Article 520. https://doi.org/10.1057/s41599-024-03013-5

Magnaye, L. A. & Malabarbas, G. T. (2022). "Research Competence of Graduate Students of the College of Education, Northwest Samar State University, Philippines". Asia Pacific Journal of Advanced Education and Technology, 1(3), 29–39.

National Economic and Development Authority (NEDA). (2023). Philippine Development Plan (PDP) 2023-2028. Retrieved from National Economic and Development Authority (NEDA). (2023). Philippine Development Plan (PDP) 2023-2028. Retrieved from [Link: https://pdp.neda.gov.ph/philippine-development-plan-2023-2028/

Ofreneo, M.A.P. (April 2014). A profile of graduate education programs in the Philippines, Policy Notes. Makati City: Philippine Institute for Development Studies.

Paixão, R. B., & Souza, M. A. D. (2018). "Impact of programs on competency, career, and income on management graduates". RAUSP Management Journal, 53(3), 441-458.

Pedersen, H. S. (2014). "New doctoral graduates in the knowledge economy: trends and key issues". Journal of Higher Education Policy and Management, 36(6), 632-645.

Pizarro, J. B. & Bansig, I. (2021). Prospects and Challenges of Ubiquitous Learning in Graduate Education in Northern Philippines. European Journal of Humanities and Educational Advancements (EJHEA), vol. 2, no. 12, 199-202.

Ratanawijitrasin, S. (2015). The evolving landscape of South-East Asian higher education and the challenges of governance. In A. Curaj, L. Matei, R. Pricopie, J. Salmi, & P. Scott (Eds.), *The European Higher Education Area* (pp. 221–238). Cham, Switzerland: Springer.

Saloma, CA, Production of STEM PhD Graduates in the Philippines: First decade of the ASTHRD and ERDT Programs, Proceedings of the Samahang Pisika ng Pilipinas 38, SPP-2020-INV-2B-01 (2020). https://proceedings.spp-online.org/article/view/SPP-2020-INV-2B-0

Sarrico, C. S. (2022). The expansion of doctoral education and the changing nature and purpose of the doctorate. Higher Education, 84(6), 1299-1315. https://doi.org/10.1007/s10734-022-00946-1

Taylor, S. (2023). "The changing landscape of doctoral education: A framework for analysis and introduction to the special issue." Innovations in Education and Teaching International, 60(5), 606–622. https://doi.org/10.1080/14703297.2023.2237962

Teichler, U. (2012). International student mobility in Europe in the context of the Bologna Process [Literature review]. ResearchGate. https://www.researchgate.net/publication/281812747_International_Mobility_in_Europe_in_the_Context_of_the_Bologna_Process

Tuaño, P.A.P., Sescon, J.T., Vicario, P.M.M.H., Castillo, R.C.J.T., Lubangco, C.K., Ponce, B.J.H. (2024). Outlook and Policy Options for Philippine Employment towards 2040 (ASOG Working Paper 24-004).

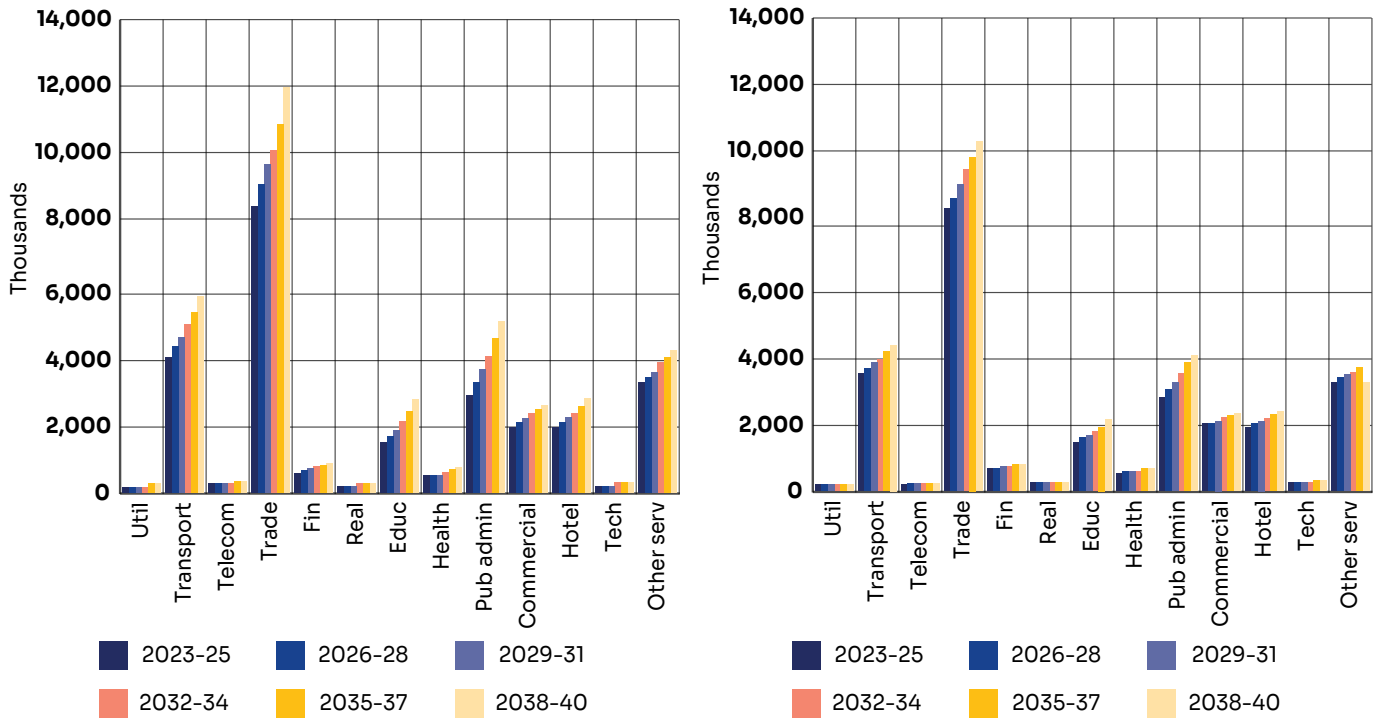
Urbancová, H. (2019). Factors influencing students' motivation to seek higher Education—A case study at a state university in the czech republic. Sustainability, 11(17), 4699. doi: https://doi.org/10.3390/su11174699 https://ehea.info/media.ehea.info/file/Ministerial_conferences/02/8/1999_Bologna_Declaration_English_553028.pdf

Wang Y, Ge Y, Chu M, Xu X. Factors influencing nursing undergraduates' motivation for postgraduate entrance: a qualitative inquiry. BMC Nurs. 2024 Oct 8;23(1):728. doi: 10.1186/s12912-024-02373-2. PMID: 39379915; PMCID: PMC11462717.

# Appendices

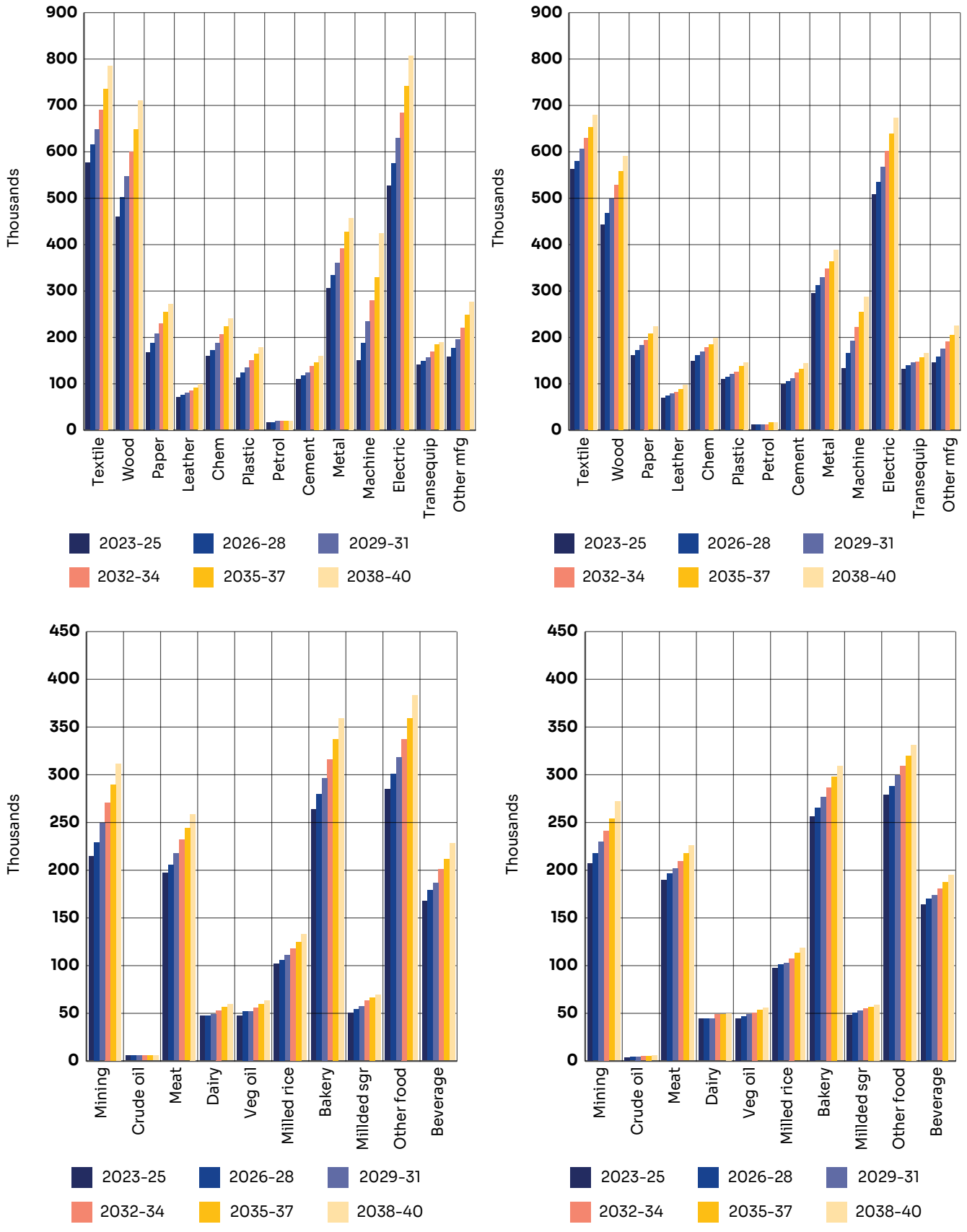
## FIGURE A1

**Employment Projection in the Service Sector**




*Note. From "Outlook and Policy Options for Philippine Employment towards 2040 (ASOG Working Paper 24-004)" by Tuaño, P.A.P., Sescon, J.T., Vicario, P.M.M.H., Castillo, R.C.J.T., Lubangco, C.K.,Ponce, B.J.H. Ateneo School of Government, p. 30.*

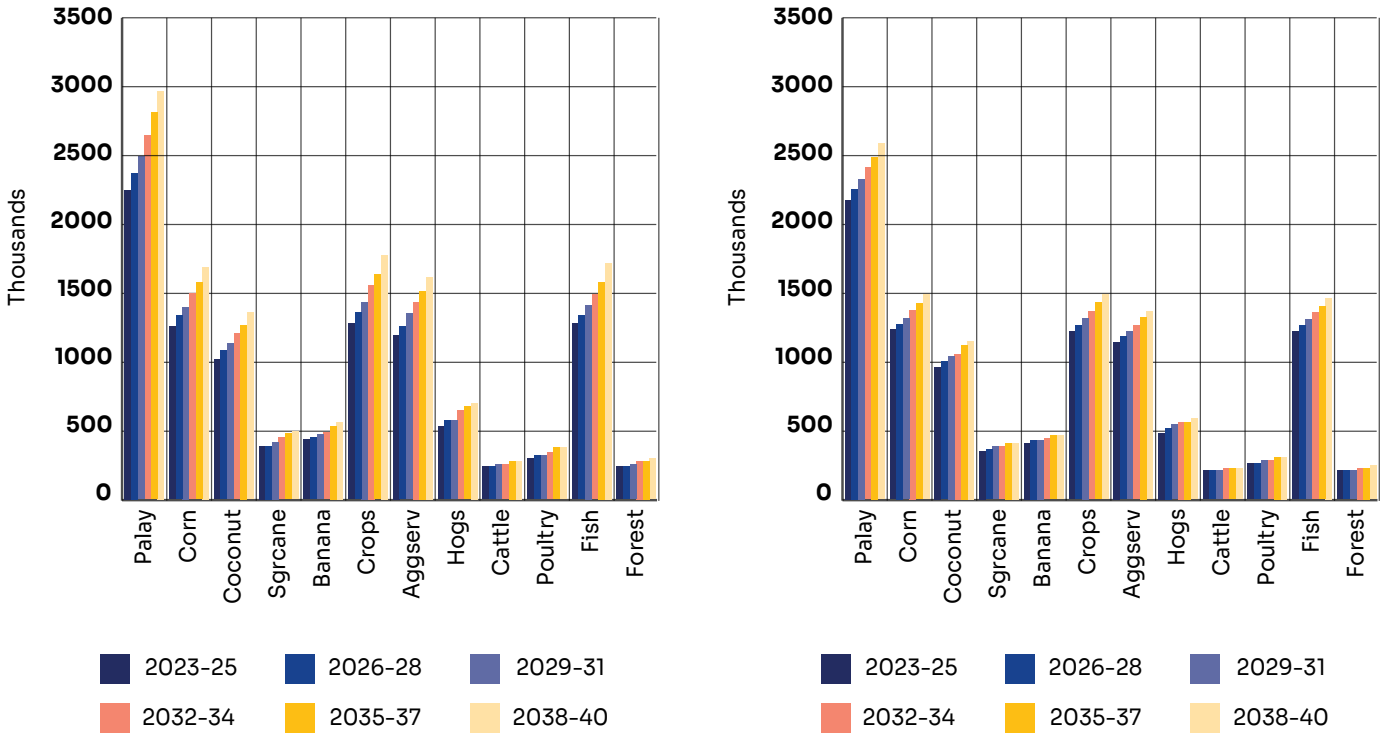
## FIGURE A2
**Employment Projection in the Industry Sector**




*Note. From "Outlook and Policy Options for Philippine Employment towards 2040 (ASOG Working Paper 24-004)" by Tuaño, P.A.P., Sescon, J.T., Vicario, P.M.M.H., Castillo, R.C.J.T., Lubangco, C.K., Ponce, B.J.H. Ateneo School of Government, p. 28.*

## FIGURE A3

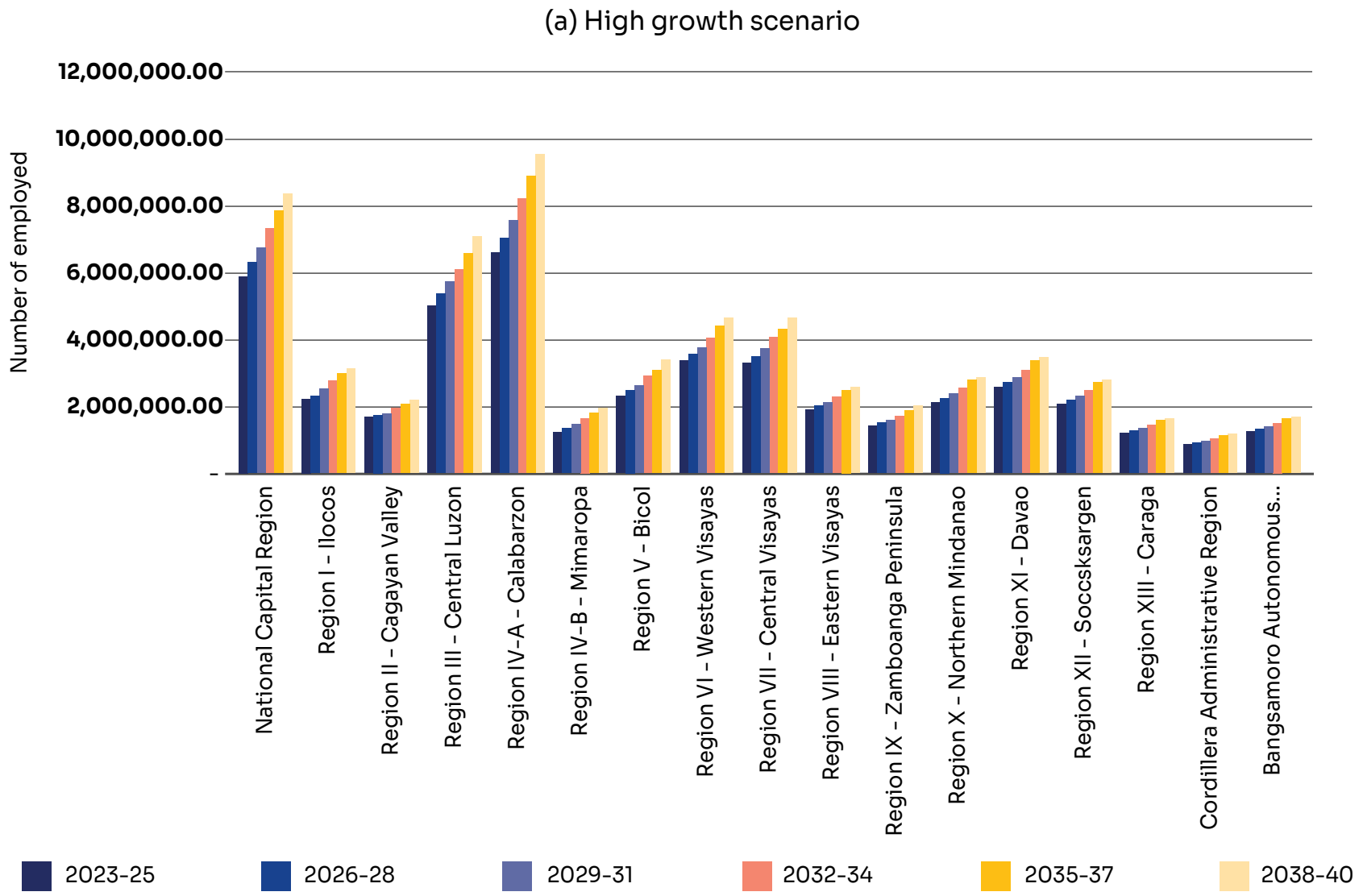
**Employment Projection in the Agriculture Sector**




*Note. From "Outlook and Policy Options for Philippine Employment towards 2040 (ASOG Working Paper 24-004)" by Tuaño, P.A.P., Sescon, J.T., Vicario, P.M.M.H., Castillo, R.C.J.T., Lubangco, C.K., Ponce, B.J.H. Ateneo School of Government, p. 27.*

**FIGURE A4**

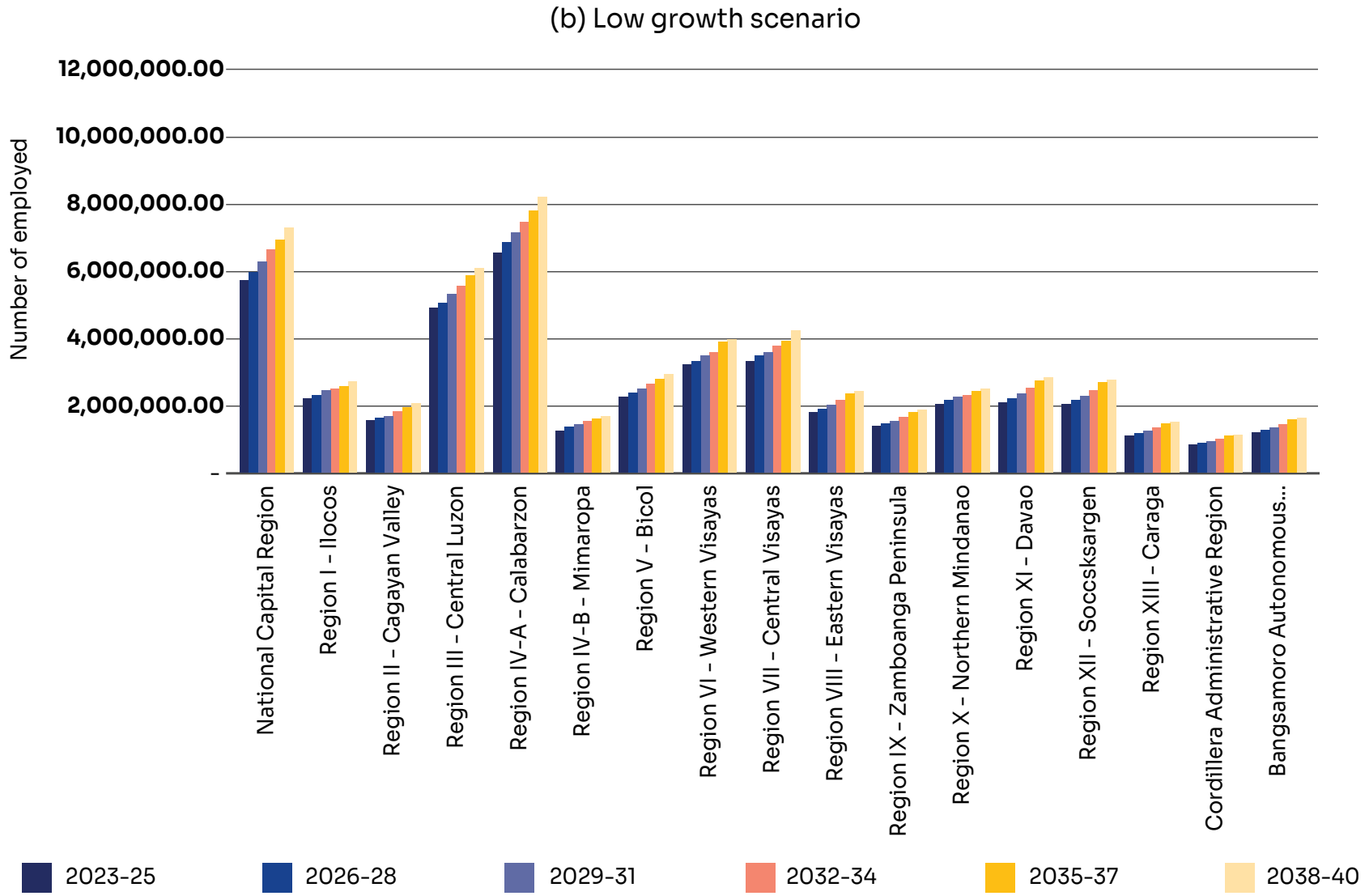
**Employment Projection by Region**




*Note. From "Outlook and Policy Options for Philippine Employment towards 2040 (ASOG Working Paper 24-004)" by Tuaño, P.A.P., Sescon, J.T., Vicario, P.M.M.H., Castillo, R.C.J.T., Lubangco, C.K., Ponce, B.J.H. Ateneo School of Government, p. 32.*

**FIGURE A4**

**Employment Projection by Region**




*Note. From "Outlook and Policy Options for Philippine Employment towards 2040 (ASOG Working Paper 24-004)" by Tuaño, P.A.P., Sescon, J.T., Vicario, P.M.M.H., Castillo, R.C.J.T., Lubangco, C.K., Ponce, B.J.H. Ateneo School of Government, p. 32.*

## TABLE A1

### Ten-year Master's Enrollment Trends, by Region

| Region | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 |
|---|---|---|---|---|---|---|---|---|---|---|
| 01 - Ilocos Region | 9,365 | 10,379 | 12,062 | 12,058 | 12,333 | 16,975 | 12,662 | 12,733 | 11,903 | 12,901 |
| 02 - Cagayan Valley | 5,148 | 6,574 | 10,199 | 9,144 | 9,562 | 10,880 | 10,824 | 10,703 | 7,462 | 12,176 |
| 03 - Central Luzon | 11,448 | 11,903 | 14,456 | 19,331 | 20,960 | 20,727 | 16,334 | 19,954 | 18,870 | 18,937 |
| 04 - CALABARZON | 13,092 | 13,559 | 15,159 | 19,310 | 22,827 | 22,096 | 18,956 | 25,088 | 23,382 | 21,279 |
| 05 - Bicol Region | 6,531 | 7,171 | 8,119 | 9,582 | 10,429 | 11,379 | 9,220 | 11,697 | 15,978 | 16,895 |
| 06 - Western Visayas | 9,508 | 11,147 | 14,380 | 17,157 | 19,851 | 16,333 | 14,263 | 17,495 | 15,796 | 16,743 |
| 07 - Central Visayas | 9,816 | 10,482 | 14,846 | 15,235 | 14,780 | 15,938 | 13,152 | 9,048 | 13,538 | 12,500 |
| 08 - Eastern Visayas | 5,621 | 5,472 | 8,221 | 10,450 | 9,951 | 10,489 | 7,200 | 8,804 | 6,454 | 10,264 |
| 09 - Zamboanga peninsula | 3,627 | 5,305 | 6,930 | 8,108 | 10,601 | 8,742 | 6,563 | 8,270 | 8,662 | 8,869 |
| 10 - Northern Mindanao | 8,161 | 10,453 | 8,085 | 10,541 | 11,633 | 12,084 | 10,789 | 11,663 | 12,337 | 11,250 |
| 11 - Davao Region | 6,598 | 6,616 | 8,412 | 10,727 | 11,103 | 10,671 | 10,530 | 13,705 | 13,334 | 13,311 |
| 12 - Soccsksargen | 4,312 | 4,853 | 6,657 | 7,895 | 8,337 | 5,603 | 5,433 | 6,662 | 6,308 | 6,622 |
| 13 - Nat. Capital Region | 53,347 | 52,694 | 43,594 | 46,812 | 46,367 | 48,274 | 41,964 | 41,532 | 60,219 | 37,903 |
| 14 - Cordillera Adm. Region | 4,937 | 5,155 | 6,241 | 6,532 | 6,483 | 6,733 | 5,116 | 6,301 | 5,794 | 6,792 |
| 15 - BARMM | 5,106 | 4,575 | 4,698 | 4,812 | 5,912 | 8,004 | 7,916 | 1,063 | 944 | n.d. |
| 16 - Caraga | 1,628 | 2,014 | 2,981 | 3,928 | 3,458 | 3,768 | 3,409 | 4,742 | 4,335 | 5,354 |
| 17 - MIMAROPA | 2,327 | 2,239 | 2,683 | 2,918 | 3,558 | 3,163 | 3,488 | 3,324 | 3,286 | 2,691 |
| **Total** | **160,572** | **170,591** | **187,723** | **214,540** | **228,145** | **231,859** | **197,819** | **212,784** | **228,602** | **214,487** |

*Notes:*
*1. Columns in blue indicate School Years when the 4 major external events that affected graduate education took place.*
*2. No data from BARMM for SY 2023-2024*

## TABLE A2

### Ten-Year Doctoral Enrollment Trends, by Region

| Region | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 |
|---|---|---|---|---|---|---|---|---|---|---|
| 01 - Ilocos Region | 1,778 | 1,341 | 1,709 | 1,944 | 2,283 | 3,587 | 2,800 | 2,488 | 2699 | 2,874 |
| 02 - Cagayan Valley | 997 | 894 | 1,214 | 1,425 | 1,602 | 2,135 | 2,286 | 2,335 | 2,025 | 2,548 |
| 03 - Central Luzon | 1,243 | 1,333 | 1,571 | 1,732 | 2,384 | 2,270 | 1,923 | 2,848 | 3,075 | 2,448 |
| 04 - CALABARZON | 1,711 | 1,738 | 1,894 | 2,261 | 2532 | 3,004 | 3,360 | 4,687 | 4,775 | 4,415 |
| 05 - Bicol Region | 868 | 876 | 986 | 1,115 | 1,230 | 1,248 | 1,262 | 1,107 | 1,363 | 1,419 |
| 06 - Western Visayas | 1,295 | 1,357 | 1,852 | 2,181 | 2,585 | 2,245 | 2,680 | 2,776 | 2,813 | 2,919 |
| 07 - Central Visayas | 1,878 | 2,163 | 2,750 | 2,523 | 2,796 | 2,635 | 2,564 | 1,874 | 2856 | 2,232 |
| 08 - Eastern Visayas | 742 | 728 | 714 | 815 | 849 | 870 | 725 | 779 | 741 | 765 |
| 09 - Zamboanga peninsula | 390 | 434 | 539 | 615 | 792 | 764 | 884 | 739 | 382 | 337 |
| 10 - Northern Mindanao | 1,413 | 1,548 | 1,061 | 1,376 | 1,498 | 1,716 | 1,765 | 1,711 | 1,651 | 1,731 |
| 11 - Davao Region | 700 | 717 | 848 | 1,078 | 1,169 | 1,148 | 1,367 | 1,515 | 1635 | 1,660 |
| 12 - Soccsksargen | 514 | 516 | 570 | 730 | 740 | 590 | 710 | 845 | 716 | 1,119 |
| 13 - Nat. Capital Region | 7,345 | 7,135 | 6,096 | 6,891 | 6,967 | 7,654 | 8,084 | 10,995 | 14,107 | 13,735 |
| 14 - Cordillera Adm. Region | 995 | 974 | 1,281 | 1,455 | 1,427 | 1,376 | 1,009 | 1,502 | 1463 | 1,564 |
| 15 - BARMM | 643 | 295 | 289 | 286 | 330 | 528 | 527 | 266 | 167 | n.d. |
| 16 - Caraga | 195 | 234 | 249 | 329 | 312 | 335 | 271 | 282 | 279 | 377 |
| 17 - MIMAROPA | 212 | 187 | 204 | 205 | 335 | 228 | 253 | 256 | 265 | 240 |
| **Total** | **22,919** | **22,470** | **23,827** | **26,961** | **29, 831** | **32,333** | **32,470** | **37,005** | **41,012** | **13,735** |

*Notes:*
*1. Columns in blue indicate School Years when the 4 major external events that affected graduate education took place.*
*2. No data from BARMM for SY 2023-2024*

## TABLE A3

### Ten-Year Master's Graduation Trends, by Region

| Region | 2013-14 | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 |
|---|---|---|---|---|---|---|---|---|---|---|
| 01 - Ilocos Region | 1,921 | 1,666 | 1,982 | 2,050 | 2,076 | 2,834 | 5,146 | 4,091 | 2,911 | 3,474 |
| 02 - Cagayan Valley | 1,321 | 1,476 | 1,820 | 1,827 | 2,010 | 2,531 | 1,981 | 2,389 | 1,841 | 2,983 |
| 03 - Central Luzon | 1,333 | 1,483 | 1,449 | 1,835 | 2,352 | 2,798 | 2,633 | 2,525 | 3,425 | 3,700 |
| 04 - CALABARZON | 2,211 | 2,529 | 2,581 | 3,150 | 4,646 | 4,187 | 4,061 | 5,242 | 5,275 | 5,214 |
| 05 - Bicol Region | 908 | 949 | 870 | 848 | 1,099 | 1,392 | 1,098 | 882 | 1,062 | 1,721 |
| 06 - Western Visayas | 1,115 | 1,170 | 1,603 | 1,760 | 2,837 | 2,175 | 2,207 | 1,517 | 2,241 | 2,395 |
| 07 - Central Visayas | 1,970 | 1,665 | 1,893 | 1,933 | 2,251 | 2,096 | 1,806 | 1,264 | 1,699 | 2,013 |
| 08 - Eastern Visayas | 798 | 679 | 860 | 852 | 1,058 | 1,222 | 1,044 | 682 | 1,216 | 1,193 |
| 09 - Zamboanga peninsula | 727 | 782 | 651 | 802 | 1,269 | 1,141 | 1,747 | 1,487 | 3,939 | 1,818 |
| 10 - Northern Mindanao | 1,424 | 1,518 | 1,293 | 1,437 | 1,575 | 1,996 | 3,005 | 1,994 | 2,626 | 3,013 |
| 11 - Davao Region | 840 | 788 | 834 | 773 | 1,010 | 1,674 | 1,648 | 1,242 | 1,589 | 1,501 |
| 12 - Soccsksargen | 1,140 | 639 | 865 | 792 | 1,018 | 751 | 715 | 458 | 636 | 1,028 |
| 13 - Nat. Capital Region | 9,382 | 10,002 | 8,184 | 7,946 | 7,970 | 8,902 | 6,318 | 6,610 | 8,846 | 6,094 |
| 14 - Cordillera Adm. Region | 874 | 927 | 1,125 | 1,088 | 960 | 977 | 790 | 709 | 914 | 986 |
| 15 - BARMM | 811 | 791 | 890 | 884 | 735 | 1,183 | 1,207 | 171 | 124 | n.d. |
| 16 - Caraga | 220 | 213 | 257 | 361 | 302 | 330 | 266 | 242 | 213 | 389 |
| 17 - MIMAROPA | 325 | 329 | 364 | 235 | 367 | 346 | 294 | 238 | 233 | 199 |
| **Total** | **27,320** | **27,606** | **27,521** | **28,573** | **33,535** | **36,535** | **35,966** | **31,743** | **38,889** | **37,721** |

*Notes:*
*1. Columns in blue indicate School Years when the 4 major external events that affected graduate education took place.*
*2. No data from BARMM for SY 2023-2024*

## TABLE A4
### Ten-Year Doctoral Graduation Trends, by Region

| Region | 2013-14 | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 |
|---|---|---|---|---|---|---|---|---|---|---|
| 01 - Ilocos Region | 198 | 252 | 301 | 332 | 291 | 455 | 546 | 714 | 421 | 618 |
| 02 - Cagayan Valley | 149 | 133 | 179 | 159 | 187 | 303 | 202 | 236 | 211 | 288 |
| 03 - Central Luzon | 209 | 248 | 196 | 179 | 242 | 323 | 256 | 297 | 432 | 453 |
| 04 - CALABARZON | 186 | 266 | 218 | 220 | 273 | 391 | 413 | 322 | 548 | 856 |
| 05 - Bicol Region | 133 | 167 | 117 | 108 | 169 | 180 | 171 | 152 | 154 | 197 |
| 06 - Western Visayas | 211 | 139 | 226 | 262 | 387 | 312 | 315 | 185 | 323 | 455 |
| 07 - Central Visayas | 311 | 451 | 461 | 443 | 541 | 660 | 534 | 204 | 531 | 537 |
| 08 - Eastern Visayas | 99 | 74 | 95 | 135 | 87 | 118 | 58 | 60 | 57 | 103 |
| 09 - Zamboanga peninsula | 56 | 85 | 57 | 59 | 89 | 93 | 138 | 164 | 285 | 102 |
| 10 - Northern Mindanao | 216 | 181 | 159 | 153 | 191 | 226 | 352 | 182 | 249 | 316 |
| 11 - Davao Region | 76 | 95 | 97 | 85 | 108 | 113 | 208 | 123 | 140 | 183 |
| 12 - Soccsksargen | 71 | 76 | 79 | 56 | 58 | 48 | 65 | 27 | 32 | 52 |
| 13 - Nat. Capital Region | 1,080 | 1,416 | 820 | 768 | 779 | 1,014 | 761 | 1,234 | 1,388 | 1,762 |
| 14 - Cordillera Adm. Region | 87 | 122 | 163 | 176 | 199 | 208 | 143 | 183 | 266 | 260 |
| 15 - BARMM | 87 | 36 | 21 | 21 | 19 | 58 | 91 | 31 | 20 | n.d. |
| 16 - Caraga | 36 | 51 | 32 | 41 | 33 | 36 | 24 | 12 | 40 | 32 |
| 17 - MIMAROPA | 42 | 31 | 33 | 17 | 38 | 25 | 20 | 23 | 17 | 36 |
| **Total** | **3,247** | **3,823** | **3,254** | **3,214** | **3,691** | **4563** | **1,234** | **4,149** | **5,065** | **6,250** |

*Notes:*
*1. Columns in blue indicate School Years when the 4 major external events that affected graduate education took place.*
*2. No data from BARMM for SY 2023-2024*

## About EDCOM 2

The Second Congressional Commission on Education (EDCOM II) is a national Commission established through Republic Act No. 11899, tasked to undertake a comprehensive national assessment and evaluation of the performance of the Philippine education sector, and to propose transformative solutions, from 2023 to 2025. It is composed of lawmakers from both the Senate and the House of Representatives, and is guided by an Advisory Council, and assisted by the Technical Secretariat.


EDCOM2
The Second Congressional Commission on Education

5th Floor, Senate of the Philippines,
GSIS Building, Pasay City, Philippines

www.edcom2.gov.ph

secretariat@edcom2.gov.ph

@edcom2ph