

Research Quality Assurance as a Predictor of Sustainable University Extension Programs: Evidence from Selected State Universities in Northern Luzon, Philippines

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Abstract. Research and university extension are complementary functions of higher education institutions that promote knowledge generation, technology transfer, and sustainable community development. Despite increasing institutional investments in research quality assurance and university extension, limited empirical evidence has examined how research quality assurance practices contribute to the sustainability of university extension programs. Existing studies have largely investigated research quality assurance and university extension independently, leaving their relationship insufficiently explored, particularly within Philippine State Universities and Colleges. This study examined the relationship between research quality assurance practices and the sustainability of university extension programs among selected State Universities and Colleges in Northern Luzon, Philippines, namely the Abra State Institute of Sciences and Technology, Don Mariano Marcos Memorial State University, and Mountain Province State University. A quantitative descriptive-correlational research design was employed. Data were collected from 150 faculty members and research and extension personnel selected through purposive sampling using a validated questionnaire. Descriptive statistics and Pearson's Product-Moment Correlation Coefficient were used to analyze the data. The findings revealed that research quality assurance practices were implemented at a high level ($M = 4.15$, $SD = 0.67$), while the sustainability of university extension programs was likewise rated high ($M = 4.14$, $SD = 0.67$). Correlation analysis showed a strong, positive, and statistically significant relationship between research quality assurance practices and the sustainability of university extension programs ($r = 0.742$, $p < .001$). These findings indicate that robust research quality assurance systems strengthen evidence-based extension planning, enhance long-term community engagement, and improve the sustainability of university extension initiatives. The study provides empirical support for integrating research quality assurance into institutional governance to advance sustainable development goals, reinforce university–community partnerships, and guide higher education institutions in formulating policies that maximize the societal impact of research and extension programs.

Keywords: Community Engagemen; Higher Edication Institutions; Research Governance; Research Quality Assurance; University Extension Sustainability

Introduction

Research and university extension are complementary functions of higher education institutions that contribute to knowledge generation, innovation, and sustainable community development. Research generates scientific knowledge and evidence that inform policies, technologies, and institutional decision-making, while university extension translates research outputs into practical interventions that address community needs through knowledge transfer and stakeholder collaboration. The integration of these functions enables universities to fulfill their societal mission by promoting sustainable development and strengthening university–community partnerships (Berchin et al., 2021; United Nations, 2015).

As higher education institutions expand their role in addressing societal challenges, ensuring the quality of research has become an institutional priority. Research quality assurance encompasses systematic planning, implementation, monitoring and evaluation, dissemination, and continuous improvement to ensure that research outputs are credible, relevant, ethical, and responsive to societal needs (Stukalo & Lytvyn, 2021).

Effective quality assurance strengthens research governance and increases the likelihood that research findings will be translated into sustainable extension initiatives. Likewise, sustainable university extension programs require active community participation, institutional commitment, effective knowledge transfer, and measurable socio-economic outcomes to ensure that project benefits continue beyond the implementation period (Arcúrio Milagre et al., 2020; Arias-Valle & Marimon, 2024).

In the Philippine context, the Commission on Higher Education institutionalized an outcomes-based and typology-based quality assurance framework through Commission on Higher Education Memorandum Order No. 46, series of 2012, which emphasizes continuous quality improvement across instruction, research, and extension. The policy encourages higher education institutions to strengthen research governance, generate relevant and innovative research, and translate research outputs into responsive extension programs that contribute to national and local development.

Despite increasing institutional investments in research and extension, the long-term sustainability of university extension programs remains a challenge. Recent studies have emphasized the importance of evidence-based planning, stakeholder participation, and institutional support in sustaining community engagement initiatives (Asio & Nerona, 2023; Busindeli et al., 2024). However, previous investigations have largely examined research quality assurance, research productivity, and university extension sustainability as separate institutional functions. Consequently, limited empirical evidence explains how research quality assurance practices influence the sustainability of university extension programs, particularly among Philippine State Universities and Colleges. Addressing this gap is important because universities are increasingly expected to demonstrate that research investments produce measurable and sustainable societal outcomes.

This study examined the relationship between research quality assurance practices and the sustainability of university extension programs among selected State Universities and Colleges in Northern Luzon, Philippines. Specifically, it sought to determine the level of research quality assurance practices in terms of research planning, research implementation, monitoring and evaluation, and research dissemination; assess the sustainability of university extension programs in terms of community participation, program continuity, socio-economic impact, and knowledge transfer; and determine whether a significant relationship exists between research quality assurance practices and the sustainability of university extension programs.

Research Questions

This study sought to examine the relationship between research quality assurance practices and the sustainability of university extension programs among selected State Universities and Colleges (SUCs) in the Philippines.

Specifically, it sought to answer the following questions:

1. What is the level of research quality assurance practices among the selected State Universities and Colleges in terms of:
 - 1.1 research planning;
 - 1.2 research implementation;
 - 1.3 monitoring and evaluation; and
 - 1.4 research dissemination?
2. What is the level of sustainability of university extension programs among the selected State Universities and Colleges in terms of:
 - 2.1 community participation;
 - 2.2 program continuity;
 - 2.3 socio-economic impact; and
 - 2.4 knowledge transfer?
3. Is there a significant relationship between research quality assurance practices and the sustainability of university extension programs among the selected State Universities and Colleges?

Scope and Delimitation of the Study

This study examined the relationship between research quality assurance practices and the sustainability of university extension programs among selected State Universities and Colleges (SUCs) in the Philippines, namely the Abra State Institute of Sciences and Technology (ASIST), Don Mariano Marcos Memorial State University (DMMMSU), and Mountain Province State University (MPSU). It focused on research quality assurance practices in terms of research planning, implementation, monitoring and evaluation, and dissemination, as well as the sustainability of university extension programs in terms of community participation, program continuity, socio-economic impact, and knowledge transfer. The respondents included faculty members and research and extension personnel directly involved in research and extension activities within the participating institutions. The study employed a quantitative descriptive-

correlational research design using a validated survey questionnaire, with descriptive and inferential statistics used for data analysis. It was limited to the perceptions of the selected respondents and the variables included in the research instrument. Other factors that may influence the sustainability of university extension programs, such as institutional leadership, funding, organizational culture, and external partnerships, were not included in the investigation. Consequently, the findings are applicable only to the participating SUCs and should be interpreted within the context of the study.

Literature Review

Research Quality Assurance and Institutional Performance

Research quality assurance has evolved from a compliance-oriented process into a strategic framework that promotes institutional excellence, accountability, and continuous improvement in higher education. Contemporary quality assurance systems encompass research planning, implementation, monitoring and evaluation, and dissemination to ensure that research activities meet standards of scientific rigor, ethical integrity, and societal relevance. Rather than focusing solely on accreditation requirements, quality assurance has increasingly been recognized as a mechanism for strengthening research governance, enhancing institutional performance, and supporting sustainable development (Commission on Higher Education [CHED], 2012; Stukalo & Lytvyn, 2021). Recent literature consistently emphasizes that effective quality assurance contributes to improved research productivity, organizational learning, and stakeholder confidence. Stukalo and Lytvyn (2021) argued that internal and external quality assurance systems should integrate sustainable development principles into institutional policies and research processes. Similarly, studies on quality management in higher education highlight that quality assurance is most effective when it becomes part of institutional culture rather than merely fulfilling accreditation requirements (Mourad & Karanshaw, 2021). However, scholars also recognize that universities differ in their implementation of quality assurance. While some institutions emphasize research productivity and publication outputs, others prioritize governance, stakeholder engagement, or institutional accountability. These variations suggest that although quality assurance is universally recognized as essential, its institutional outcomes depend largely on how quality systems are integrated into research management and decision-making. Across the literature, research planning, implementation, monitoring and evaluation, and dissemination are consistently identified as the core dimensions of research quality assurance. Strategic planning ensures that research aligns with institutional priorities and societal needs, while rigorous implementation promotes methodological integrity and ethical compliance. Monitoring and evaluation facilitate continuous improvement by identifying implementation gaps and informing institutional decisions. Dissemination extends research beyond academic publication by translating research findings into policies, innovations, and community applications. Collectively, these dimensions enhance both research credibility and institutional relevance, suggesting that quality assurance serves not only academic objectives but also broader societal goals (Stukalo & Lytvyn, 2021).

Sustainability of University Extension Programs

University extension is widely recognized as the "third mission" of higher education, complementing instruction and research through direct engagement with communities. Sustainable extension programs are characterized by continued community participation, institutional commitment, effective knowledge transfer, long-term program continuity, and measurable socio-economic benefits. Rather than measuring success solely by the number of activities conducted, recent studies emphasize that sustainability should be evaluated by the extent to which communities maintain project outcomes after university support has concluded (Arcúrio Milagre et al., 2020; Asio & Nerona, 2023). Although previous studies generally agree that stakeholder participation is fundamental to extension sustainability, they differ in explaining the factors that sustain community engagement. Arcúrio Milagre et al. (2020) emphasized institutional commitment and continuous knowledge transfer as primary determinants of sustainability, whereas Asio and Nerona (2023) identified inadequate monitoring, weak institutional support, and limited community ownership as major barriers to sustaining extension initiatives. Likewise, Arias-Valle and Marimon (2024) found that universities that intentionally integrate sustainability principles into extension activities demonstrate stronger stakeholder collaboration and long-term program effectiveness. These findings collectively suggest that sustainable extension depends on both institutional systems and active community participation rather than on project implementation alone. Despite these advances, much of the existing literature evaluates extension sustainability independently from institutional research systems. Most studies assess community participation, socio-economic impact, or stakeholder engagement without examining the quality of the research processes that generate the evidence used in designing extension interventions. Consequently, limited attention has been given to the possibility that research quality assurance may influence the long-term sustainability of university extension programs.

Research Quality Assurance and the Sustainability of University Extension Programs

The increasing emphasis on evidence-based decision-making has strengthened the integration of research and university extension within higher education institutions. High-quality research provides reliable evidence for identifying community needs, designing interventions, monitoring implementation, and evaluating outcomes. Consequently, research quality assurance has the potential to enhance not only research productivity but also the relevance, effectiveness, and sustainability of university extension programs. Although previous studies acknowledge the complementary roles of research and extension, empirical investigations linking these two institutional functions remain limited. Existing research on quality assurance has primarily examined institutional governance, accreditation, and organizational performance, while studies on university extension have focused on community participation, knowledge transfer, socio-economic impact, and program continuity (Stukalo & Lytvyn, 2021; Arias-Valle & Marimon, 2024; Asio & Nerona, 2023). These separate lines of inquiry provide valuable insights but offer limited empirical evidence explaining whether strong research quality assurance systems contribute to more sustainable extension programs. This gap is particularly evident in Philippine State Universities and Colleges, where research and extension are recognized as complementary mandates under the Commission on Higher Education's quality assurance framework. While institutions continue to strengthen research governance and expand community engagement initiatives, empirical evidence explaining how research quality assurance influences the sustainability of university extension programs remains scarce. Addressing this gap is important because universities are increasingly expected to demonstrate that investments in research translate into sustained community benefits and measurable societal outcomes. Accordingly, the present study investigates the relationship between research quality assurance practices, specifically research planning, implementation, monitoring and evaluation, and dissemination and the sustainability of university extension programs in terms of community participation, program continuity, socio-economic impact, and knowledge transfer among selected State Universities and Colleges in Northern Luzon, Philippines. The study contributes empirical evidence to the growing body of literature on higher education quality assurance and sustainable community engagement while providing a basis for strengthening institutional research and extension policies.

Methodology

Research Design

In order to investigate the connection between research quality assurance procedures and the sustainability of university extension programs among particular State Universities and Colleges (SUCs) in the Philippines, this study used a quantitative descriptive-correlational research design. The descriptive component was used to assess the sustainability of university extension programs in terms of community involvement, program continuity, socioeconomic impact, and knowledge transfer, as well as the degree of research quality assurance practices in terms of research planning, implementation, monitoring and evaluation, and dissemination. Without changing the study variables, the correlational component was used to ascertain whether research quality assurance procedures and the sustainability of university extension programs are significantly correlated. A quantitative approach was considered appropriate because it enabled the collection and analysis of numerical data from respondents using a structured survey questionnaire. The descriptive-correlational design is widely used in educational and social science research to describe existing conditions and examine relationships among variables in their natural settings (Creswell & Creswell, 2023). The findings of this design provide empirical evidence that may serve as a basis for strengthening institutional research quality assurance systems and promoting sustainable university extension programs.

Sampling Design

This study employed purposive sampling, a non-probability sampling technique that enables the deliberate selection of participants who possess the knowledge, experience, and responsibilities relevant to the objectives of the study (Creswell & Creswell, 2023). The respondents were selected based on the following inclusion criteria: (1) currently employed in one of the participating State Universities and Colleges (SUCs); (2) directly involved in research and/or university extension functions; and (3) serving as a faculty member, research coordinator, extension coordinator, research director, or extension director. A total of 150 respondents participated in the study, with 50 respondents from each of the three participating State Universities and Colleges. The sample size was determined based on the availability of personnel who met the established inclusion criteria and possessed direct involvement in research quality assurance and university extension activities. Selecting 50 participants from each institution ensured balanced institutional representation while capturing the perspectives of key personnel responsible for planning, implementing, monitoring, evaluating, and disseminating research and extension programs. Because the study sought information from respondents with specialized knowledge rather than to estimate population parameters,

purposive sampling with 150 information-rich participants was considered appropriate to provide credible and meaningful data for examining the relationship between research quality assurance practices and the sustainability of university extension programs.

Research Locale

The study was conducted in three selected State Universities and Colleges (SUCs) in Northern Luzon, Philippines: the Abra State Institute of Sciences and Technology (ASIST), Don Mariano Marcos Memorial State University (DMMMSU), and Mountain Province State University (MPSU). These institutions were selected because they have established research and extension programs and institutional quality assurance mechanisms that support the three-fold functions of higher education, instruction, research, and extension. The inclusion of these universities provided a broader perspective on research quality assurance practices and the sustainability of university extension programs across public higher education institutions with diverse institutional and community contexts.

Research Participants

The participants of this study consisted of 150 respondents from three selected State Universities and Colleges (SUCs) in Northern Luzon, Philippines: the Abra State Institute of Sciences and Technology (ASIST), Don Mariano Marcos Memorial State University (DMMMSU), and Mountain Province State University (MPSU). Each institution contributed 50 respondents, comprising (40) faculty members, (4) research coordinators, (4) extension coordinators, (1) research director, and (1) extension director. These participants were selected because of their direct involvement in the planning, implementation, monitoring, evaluation, and dissemination of research and university extension programs.

Research Instrument

The study utilized a researcher-developed structured questionnaire based on CHED Memorandum Order No. 46, series of 2012, relevant literature, and previous studies on research quality assurance and university extension. The instrument consisted of three parts: Part I gathered the respondents' demographic profile, Part II assessed research quality assurance practices in terms of research planning, implementation, monitoring and evaluation, and dissemination, while Part III measured the sustainability of university extension programs in terms of community participation, program continuity, socio-economic impact, and knowledge transfer. A five-point Likert scale was used to measure respondents' perceptions. To establish content validity, the initial draft of the questionnaire was evaluated by five experts in research, quality assurance, university extension, educational management, and research methodology. The validators assessed the instrument in terms of clarity, relevance, adequacy, coherence, and alignment with the objectives of the study. Their comments and recommendations were incorporated to improve the content, wording, and organization of the questionnaire before pilot testing. Following expert validation, the revised instrument was pilot-tested among respondents who possessed characteristics similar to those of the target participants but were not included in the actual study. The pilot test was conducted to determine the clarity of the questionnaire items, identify ambiguous statements, and assess the internal consistency of the instrument. The responses obtained from the pilot test were subjected to reliability analysis using Cronbach's alpha coefficient. The instrument obtained a Cronbach's alpha coefficient of at least 0.70, indicating acceptable internal consistency and confirming that the questionnaire was reliable for use in the actual study. Based on the results of the expert validation and pilot testing, the instrument was finalized and administered to the selected respondents.

Data Gathering Procedure

Prior to data collection, approval to conduct the study was secured from the administrators of the participating State Universities and Colleges and the appropriate research ethics committee. After obtaining the necessary permissions, the researcher coordinated with institutional representatives for the administration of the questionnaire. Respondents were informed of the purpose of the study, and their voluntary participation was secured through informed consent. Confidentiality and anonymity were maintained throughout the study. Completed questionnaires were retrieved, checked for completeness, coded, tabulated, and prepared for statistical analysis.

Results and Discussions

Research Question 1: What is the level of research quality assurance practices among the selected State Universities and Colleges in Northern Luzon, Philippines?

Table 1. Level of Research Quality Assurance Practices Among the Selected State Universities and Colleges

Dimension	Mean	SD	Interpretation
Research Planning	4.14	0.67	High
Research Implementation	4.23	0.63	Very High
Monitoring and Evaluation	4.05	0.71	High
Research Dissemination	4.16	0.66	High
Over-all Mean	4.15	0.67	High

Table 1 presents the level of research quality assurance practices among the selected State Universities and Colleges (SUCs). The results reveal an overall mean of 4.15 ($SD = 0.67$), interpreted as High, indicating that research quality assurance practices are consistently implemented across the participating institutions. Among the four dimensions, research implementation obtained the highest mean ($M = 4.23$, $SD = 0.63$), with a descriptive interpretation of Very High, suggesting that established policies, ethical standards, and institutional procedures are effectively observed during the conduct of research. This was followed by research dissemination ($M = 4.16$, $SD = 0.66$) and research planning ($M = 4.14$, $SD = 0.67$), both interpreted as High, indicating that the institutions have systematic mechanisms for setting research priorities and communicating research outputs to relevant stakeholders. Monitoring and evaluation obtained the lowest mean ($M = 4.05$, $SD = 0.71$), although it remained within the High level, suggesting opportunities to further strengthen feedback mechanisms and the continuous assessment of research activities. The results show that the participating SUCs have put in place institutional mechanisms that support high-quality research through efficient planning, execution, oversight, assessment, and distribution. The institutions' dedication to making sure that research activities are carried out in compliance with authorized policies, ethical standards, and quality assurance procedures is demonstrated by the exceptionally high rating for research implementation. Similarly, the high ratings for research planning and dissemination imply that research projects are strategically in line with institutional priorities and that research findings are successfully shared with stakeholders in academia and the community. Even though monitoring and evaluation were rated highly as well, their comparatively lower mean suggests that systematic monitoring procedures and the use of evaluation results to support ongoing quality improvement need to be improved. The findings align with the Commission on Higher Education's (2012) quality assurance framework, which highlights systematic planning, implementation, monitoring, evaluation, and continuous improvement as crucial elements of high-quality higher education. Aldabergenova et al. (2025) emphasized that research governance and quality assurance frameworks strengthen institutional accountability through systematic evaluation, measurable indicators, and continuous improvement mechanisms. García-Juanatey et al. (2025) further highlighted that effective quality assurance requires coordinated governance structures and policy mechanisms that promote transparency, accountability, and institutional enhancement. Cenderawasih and Yudiawan (2025) also stressed that efficient quality assurance mechanisms improve research productivity and institutional excellence by ensuring that research procedures are guided by established standards and continuous assessment.

Research Question 2: What is the level of sustainability of university extension programs among the selected State Universities and Colleges in Northern Luzon, Philippines?

Table 2. Level of Sustainability of University Extension Programs Among the Selected State Universities and Colleges

Dimension	Mean	SD	Interpretation
Community Participation	4.19	0.65	High
Program Continuity	4.03	0.71	High
Socio-economic Impact	4.13	0.67	High
Knowledge Transfer	4.19	0.64	High
Over-all Mean	4.14	0.67	High

Table 2 shows the overall level of sustainability of university extension programs among the selected State Universities and Colleges (SUCs). The findings revealed an overall mean of 4.14 ($SD = 0.67$), interpreted as High, indicating that the participating institutions have established sustainable extension programs characterized by active stakeholder engagement, effective knowledge sharing, and positive community outcomes. Among the four dimensions, community participation ($M = 4.19$, $SD = 0.65$) and knowledge transfer ($M = 4.19$, $SD = 0.64$) obtained the highest mean scores, both ranking first and interpreted as High. These were followed by socio-economic impact ($M = 4.13$, $SD = 0.67$), while program continuity obtained the lowest mean ($M = 4.03$, $SD = 0.71$), although it remained within the High descriptive level.

The high ratings for community participation and knowledge transfer indicate that the participating SUCs have successfully fostered collaborative partnerships with their partner communities and effectively translated research outputs into practical interventions. Active stakeholder participation throughout the planning and implementation of extension activities promotes community ownership, responsiveness to local needs, and long-term engagement. Similarly, the high level of knowledge transfer demonstrates the institutions' commitment to disseminating research-based knowledge, technologies, and innovations that enhance the capabilities of community beneficiaries. These findings suggest that extension programs are not merely service-oriented activities but are evidence-based initiatives that facilitate learning, innovation, and sustainable community development. Although program continuity received the lowest rating among the four dimensions, its high descriptive level indicates that extension programs are generally sustained beyond their initial implementation. Nevertheless, the comparatively lower mean suggests that universities may further strengthen institutional support, resource allocation, long-term partnerships, and monitoring mechanisms to ensure the continuity and scalability of extension initiatives. Sustaining extension programs requires continuous collaboration among universities, partner communities, government agencies, and other stakeholders to maintain program benefits and institutional commitment over time. The findings are consistent with recent literature emphasizing that sustainable university extension programs are characterized by meaningful community engagement, knowledge exchange, institutional commitment, and measurable social and economic outcomes. Esteban (2025) highlighted that the sustainability of university extension programs is strengthened when research, innovation, and community engagement are integrated to address societal needs and generate meaningful community impact. Similarly, Rodriguez et al. (2024) emphasized that higher education institutions contribute to sustainable development through community engagement initiatives that promote knowledge transfer, collaboration, and the achievement of social development goals. In the Philippine context, Sayson (2024) reported that community extension projects of State Universities and Colleges contribute to educational advancement, economic empowerment, environmental sustainability, and community development when supported by strategic planning and sustainability mechanisms. These findings reinforce the strategic role of university extension as the third mission of higher education, where institutions serve as catalysts for sustainable development through reciprocal partnerships, application of research-based knowledge, and continuous engagement with communities.

Research Question 3: Is there a significant relationship between research quality assurance practices and the sustainability of university extension programs among the selected State Universities and Colleges in Northern Luzon, Philippines?

Table 3. Relationship Between Research Quality Assurance Practices and the Sustainability of Extension Programs

Variables	r-value	P-value	Decision	Interpretation
Research Quality Assurance Practices and Sustainability of University Extension Programs	0.742	< .001	Reject Ho	Significant Strong Positive Relationship

Table 3 displays a significant strong positive relationship between research quality assurance practices and the sustainability of university extension programs, as evidenced by the obtained r-value of 0.742 and p-value of < .001, leading to the rejection of the null hypothesis. This finding indicates that universities with stronger research quality assurance practices are more likely to sustain their extension programs through improved planning, implementation, monitoring, evaluation, and utilization of research-based evidence. Effective quality assurance mechanisms enhance the relevance, effectiveness, and continuity of extension initiatives by ensuring that programs are responsive to community needs and grounded in reliable data. This result supports the view that quality assurance promotes continuous improvement, accountability, and institutional effectiveness in higher education by integrating evidence-based practices into academic and community engagement functions (Commission on Higher Education [CHED], 2012). Furthermore, research-driven decision-making and systematic evaluation are recognized as essential elements in sustaining higher education's contribution to community development and social transformation (UNESCO, 2021). Thus, the findings suggest that strengthening research quality assurance practices can significantly contribute to the long-term sustainability and impact of university extension programs.

Ethical Considerations

This study adhered to the ethical standards established by the 1979 Belmont Report, emphasizing the principles of respect for persons, beneficence, and justice in research involving human participants. Since the

study was conducted independently across the selected State Universities and Colleges, necessary permissions were secured from the appropriate institutional authorities and offices prior to data collection. Informed consent was obtained from all participants after providing clear information about the purpose of the study, research procedures, and their right to voluntarily participate or withdraw at any time without consequences. Privacy, confidentiality, and anonymity were strictly maintained through the use of coding procedures, and all collected data were utilized solely for academic purposes and managed in accordance with the Data Privacy Act of 2012 (Republic Act No. 10173). The study ensured that participants were not exposed to physical, psychological, emotional, or social risks, while fairness, objectivity, honesty, and transparency were observed throughout the research process, including data gathering, analysis, interpretation, and reporting of findings.

Conclusion

The study found that among the chosen State Universities and Colleges in Northern Luzon, Philippines, research quality assurance procedures have a major impact on the long-term viability of university extension programs. It also found that community involvement, program continuity, socioeconomic impact, and knowledge transfer are all strengthened by efficient research quality assurance through systematic procedures, evaluation, and application of research findings. Improving research quality assurance procedures is crucial for creating responsive, long-lasting, and effective university extension programs, as evidenced by the strong positive correlation between the variables.

Recommendations

State Universities and Colleges administrators, extension directors, faculty members, and researchers are recommended to strengthen research quality assurance and sustainable university extension programs through enhanced policies, adequate resource allocation, systematic monitoring and evaluation, continuous capability-building, evidence-based planning, stakeholder collaboration, and effective utilization of research outputs.

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