The State of Research and Publication at a Philippine University: Baseline Data for Enhanced Research and Development Initiatives

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This paper reviews the literature on whether productivity in research and publication should be considered a standard in higher education institutions. Moreover, it discusses the national, institutional, and personal barriers to faculty engagement in research and publication and strategies that facilitate such productivity. Finally, findings on an investigation on the state of research and publication at a Philippine university are presented. The study aims to determine [1] the percentage of college teachers who are productive in research and publication; [2] the factors that facilitate and constrain research and publication productivity; and [3] mechanisms and infrastructure that are already in place in the University and how these may be enhanced to further stimulate a culture of research and publication. Results show that from 1997-2007, only 47% of the faculty engaged in research, of which only 29% have published their output in scholarly publications. Among the commonly identified reasons for the lack of productivity are [1] teaching tasks; [2] lack of necessary writing skill needed to produce a publishable report; [3] housework and family responsibility; [4] lack of knowledge on how to repackage their theses/dissertation to meet the technical and requirements of particular journals; and, [5] absence of information on the procedures and dynamics of getting a work published. Those who are productive cited the following as the factors that stimulate in research and publication: [1] the belief that research is integral to their professional growth as a teacher; [2] accreditation; [3] incentives for research; and [4] promotion in rank. The following strategies were suggested by the respondents to strengthen the culture of research and publication in the University: [1] establishing a mentoring system where faculty members who have already conducted research and published their research findings closely supervise and coach those who have not yet engaged in research and publication; [2] crediting at least six units to faculty who engage in research, the credit

awarded only once the output has been published in scholarly journals; [3] conducting workshops on how to get a work published in appropriate journals; [4] facilitating a system of wider and more frequent dissemination of research and development opportunities from concerned offices; and, [5] identifying more funding agencies to support research and development activities of the faculty.

KEYWORDS: Research in higher education; research culture; state of research and publication-Philippines; faculty engagement in research-barriers and motivation; research and development

INTRODUCTION

Research is a key function of a university. In fact, "teaching and research are widely regarded as the two core activities of academics" (Zubrick, Reid, & Rossiter, 2001). Research, as a primary function of the academia, is a "prime source of knowledge and innovation at national, regional and international levels" and is closely linked to national and international development (Meek, Teichler, & Kearney, 2009, p. 12). Thus, , the interplay between teaching and research is widely accepted as an indicator of institutional quality (Coaldrake & Stedman, 1999, p. 17 in Zubrick, Reid, & Rossiter, 2001 p. 5).

Bernardo (2009) posited that research is valuable because it engages the faculty in a "conversation" in which a "group of people are taking turns in advancing ideas relating to a particular question or inquiry." Bernardo further argued that publishing the research "brings the conversation to a wider public" and provides a venue for other scholars to examine the quality of one's contribution to the dialogue. Moreover, research and publication and the review of related literature that is integral to the process, "push the conversation forward or towards some positive direction." In addition to this crucial function, research and publication also enhance institutional reputation through higher accreditation status, as well as tenure and promotion of the faculty.

However, according to the UNESCO Forum on Higher Education, Research and Knowledge 2001-2009, "overall, the situation of research universities in low-income countries remains bleak." In general, external funding for research and publication favor institutions in

the first world economies. In fact, some twenty-two of the world's elite twenty-five research universities (known as "Super RUs") are located in one country, the United States of America" (Meek, Teichler, & Kearney, 2009, p. 12). Moreover, the 2007 United Nations Conference on Trade and Development (UNCTAD) report noted that "there are only 94.3 scientific researchers per million people in the least developed countries (LDCs), against 313 in the other developing countries (ODCs) and 3,728 in rich countries" (cited in Vessuri, 2008, p. 121). This is a challenge to universities in LCDs since it is widely held among academics that to contribute to nation building, one must not only be a consumer of information but also be actively engaged in the process of inquiry and creation of new knowledge through research and publication. In fact, in a review of the programs of the *UNESCO Forum on Higher Education, Research and Knowledge* from 2001 to 2009, Meek, Teichler, & Kearney (2009) reiterated that "even the poorest nations require research capacity, or access to research findings, to progress; and so it could be argued that support for the principle of a research university in these contexts is more urgent than ever before. Reaching this goal and maintaining the quality and relevance of these essential institutions require national commitment and must remain a major objective for international cooperation…" (p. 12).

This also remains a challenge in the Philippines. A developing country, the Philippines also lags behind in research and publication. In fact, in describing the state of research and publication in the country, Lacanilao (2009) noted that not only is the country behind in research and publication, many of those who publish their research findings do so in journals that are "not adequately peer-reviewed and accessible for international verification." Thus, the information merely becomes part of "gray literature" (p.1). In advancing her argument, Lacanilao cited Bagarinao's review of the publication performance of five ASEAN countries from 1980-2006, which shows that although the Philippines was ahead of Indonesia and Vietnam in the 1980's, the continued decline in research and publication placed the country in the lowest rank in the mid 1990s compared to Thailand, Malaysia, Indonesia, and Vietnam. The study also showed that "the Philippines is not only behind in publications, but it has also shown the slowest growth rate among the five countries throughout the covered period." Lacanilao also noted that when she plotted the Human Development Index (HDI) trends of the five countries in Bagariano's review, she noticed that "their performance in research matches with their performance in development. The Philippines,

with its lowest scientific productivity, also has the lowest growth rate in development."

This paper furthers the discussion on the state of research and publication in Philippine higher education institution (HEI). Particularly, it presents the findings in a study conducted at a Philippine university, particularly Silliman University, which is home to colleges and departments identified by the Philippine Commission on Higher Education (CHED) as Center of Excellence (COE)[1].

It must be noted, however, that although the University distinguishes itself in terms of its relatively high accreditation status and has been identified by the Philippine Commission on Higher Education (CHED) as a Center of Excellence (COE), it seems that the general observation, especially by accrediting agencies, is that the university has not yet developed a robust culture of research and publication. During accreditations, the Philippine Accrediting Association of Schools, Colleges, and Universities (PAASCU), the accrediting agency Silliman is affiliated with consistently noted the need for the University to strengthen its research and publication component. It appears that the majority of academic personnel are not engaged in research and publication despite the productive merits stipulated in the University the Faculty Salary Adjustment Scheme (FSAS), and even with call for papers from the University publication arm, the *Silliman Journal*. If publication at the *Silliman Journal*, one of the oldest academic publications in the country, being in existence for more than 50 years now, is an indicator of faculty involvement in research, it may be observed that Silliman college faculty has done poorly. In fact, in the golden anniversary issue of *Silliman Journal* (Volume 45, No 1 January-June 2004), former Editor-in-Chief and chair of the *SJ* Editorial Board Ceres Pioquinto says:

> For the past several years, constituting an issue purely from members of the Silliman University faculty submissions has been for us among the greatest challenges. If this issue is any indication, then the state of publication in campus leaves little to be desired. Of the eleven full-length as well as shorter articles represented in this issue, only three are written by members of the faculty, representing roughly 1% of the

[1] Centers of Excellence (COEs) and Centers of Development (CODs) are "either public or private higher education institutions (HEIs) which have demonstrated the highest degree or level of standard along the areas of instruction, research, and extension. They provide institutional leadership in all aspects of development in specific areas of discipline in the various regions by providing networking arrangements to help ensure the accelerated development of HEIs in their respective service areas" (www.ched.gov.ph).

entire faculty population (2004, p.14).

On the other hand, the University is also recognized for the research accomplishments of some of its college faculty. In fact, since the establishment of the CHED REPUBLICA Awards for outstanding research and publications in 1994, five faculty members have already received the award. This includes research and publication in the natural sciences, i.e., Paalan, R., Alcala, E., & Averia, L., 2005; Abesamis, R., 2007; and Alcala, A., 2009; as well as in the social sciences, *i.e.*, Oracion, E., 2005; Cleope, E., 2009 (Oracion, Personal interview, September 2009).

In general, however, the widespread perception remains that research and publication are not a strong component of the university's academic culture. It appears that the faculty has not embraced the culture of research as part of their identity as university teachers. This research was conducted to validate such observation so that appropriate strategies may be identified to enhance research and development initiatives.

The study was conducted from 2008-2009 to identify [a] the extent to which faculty members engaged in research as well as the publication of their research findings; [b] the factors that facilitate and those that constrain or limit faculty engagement in research and publication; and [c] strategies or infrastructures that the faculty believe would stimulate faculty engagement in research and publication. Moreover, existing University infrastructures aimed at further improving productivity in research and publication are identified.

REVIEW OF RELATED LITERATURE

Unlike the medieval university that focuses only on teaching as its function, "today's university is expected to "perform a trifocal function that is instruction, research and service to community." In its modern sense, a university is an institution that does not just teach or transmit knowledge but one that also generates new knowledge and information through research" (Gonzales, 2004). This presupposes that a rich culture of research is an integral function of any university worthy of its name. Research culture refers to "the set of shared, taken-for-granted implicit assumptions that members of a HEI hold about research and that determines how they perceive, think about, and behave with respect to research activities" (Schein, 2004, in Teehankee, 2009).

However, educators do not agree that all institutions of higher education (HEIs) develop a rich culture of research and publication. In fact, there appears to be at least five positions and observations on HEI participation in research and publication. The first position concerns universities like Silliman University where the majority are undergraduate students. Sterner (1999), in her study on "Faculty attitudes toward involvement in grant-related activities at a predominantly undergraduate institution (PUI)," stated that some educators have argued that higher education institutions focus on improving "the quality of teaching and undergraduate learning," not on research since instruction is the primary function of an academic institution (Astin & Chang, 1995).

The second position is that HEIs must require its faculty to actively engage in research "as the primary force for strengthening and enhancing student learning and for the continued improvement of humankind through increased knowledge and understanding" (Platter, 1995). Paul and Rubin (1984) argued that productive researchers make better teachers. In advancing their argument, they described the two facets of good teaching: [1] ability to communicate with and motivate students; and [2] content mastery. They further argued that the first greatly influences students' evaluation of teachers and relegates the more important aspect of teaching to a subordinate position. However, content knowledge is integral to good teaching. This necessitates the teaching of current material; and the selection of material to be taught. "A teacher who reads the current literature will read both fruitful and sterile ideas. Thus, this second aspect of good teaching, the ability to determine in advance which ideas will turn out to be useful and to teach those rather than the less useful ideas" is also developed. In fact, they further argued that even if the faculty publishes their work in "obscure" journals, it is still good because publishing in any journal "requires reading major journals, so that one is at least aware of the progress being made" (p. 143).

In relating good teaching and scholarship, Zubrick, Reid, and Rositter (2001) argued that good teaching only qualifies as scholarship when "[1] teachers' lessons properly emerge from enquiry and build upon existing knowledge; [2] teachers' engagement with their subjects and their students is creative and progressive; [3] teachers' efforts are productive of learning and strategies for learning; [4] results of their efforts are open to public evaluation; and [5] they convey academic and disciplinary values and ways of thinking" (p.7).

The third position is that faculty engagement in research is

the obligation of research universities particularly in knowledge-driven economies[2] (Davis, Evans, & Hickey, 2006). Thus, research universities based on the research background and qualifications of the faculty must be identified, so external funding may be funneled to more productive activities.

These arguments are also shared by Filipino scholars. Bernardo (2006) posited that not everyone in the university may be expected to conduct research. He further argued that "research should NOT be a function and quality required of HEIs" and reiterated that

> some HEIs could play an important role in attaining national development goals, even if these institutions do not have any research activities or functions. For such institutions, it might not be appropriate to evaluate institutional quality in terms of research-related criteria since their claims to relevance and status within higher education system is not related to the knowledge-generation processes (p.112).

A similar position is also advanced by Kearney (2009) when she suggested that one strategy to develop higher education, research, and innovation (HERI) may be to "identify key institutions for focused investments, in order to avoid spreading resources for research too thinly." Kearney corroborated Bienenstock's position that

> the role of universities, as opposed to research institutes, needs to be clarified. In higher education, resources for research may be concentrated so that at least one university will develop capacity for in-country research training in critical fields. Such research universities are characterized by top graduates, cutting-edge research, and vigorous technology transfer. Their critical dimensions are a concentration of talent, abundance of resources and favourable governance, which combine to assure excellence in graduate education and research output (Bienenstock, 2006, in Kearney, 2009, p.14).

The importance of identifying and further developing such research universities is reiterated by Kearney (2009) when she

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[2] A knowledge-based economy can be defined as: 'an economy in which the production, distribution and use of knowledge is the main driver of growth, wealth creation, and employment across all industries' (Department of Industry, Training and Research, in Andrews, 2004, p. 4). Accordingly, a knowledge-based economy is reliant on harnessing the human and social capital produced by knowledge workers for growth and prosperity. Adapting to a knowledge-based economy requires a significant shift in thinking—at government, academic, corporate and personal levels. It stands to reason that education broadly, and higher education in particular, has an important role to play in the development of new knowledge practices and processes (Davis, Evans, &Hickey, 2006, p. 231).

emphasized that "nurturing research universities is perhaps the single strongest component of knowledge-based systems, due to their crucial social, economic and cultural impact" (p.22).

On the other hand, Owen (2009) disagrees with this position when he reiterated that "if research, the scholarly and systematic search for new and the testing of existing knowledge, and teaching, the systematic dissemination of knowledge, are two sides of one coin, the debate should not focus on whether faculty at small universities should participate in research, but on how to maintain and build up the research enterprise at small universities" (p. 5).

The fourth perspective on the role of research in higher education institutions is that universities broaden the definition of research to "encompass activities that go far beyond traditional expectations of scientific research and publication in peer reviewed journals" to include "integrative interdisciplinary activities, application (problem-solving) activities, and teaching activities" (Boyer, 1990, cited in Williams, 1995, p.1). This may include conducting action research, which may be aimed at documenting teaching practices, not primarily for publication in peer-reviewed journals, but for presentation and discussion during seminars and conferences (Nunan, 2003).

The fifth position on faculty engagement in research and publication relates to the perceived changing motivation for HEIs to engage in research and development activities. Some educators are concerned that faculty engagement in grant writing and research is primarily driven not by its direct and positive impact on the quality (substance) of teaching (Rauckhorst, 1988 in Sterner, 1999) but by the value accorded to faculty who generate income for the university through funded research (Barnett, R. 1992; Brew, A. 1999). In Canada, Polster (2007) in her research on "The nature and implications of the growing importance of research grants to Canadian universities and academics" noted that Canadian academics are pressured to continually apply for research grants or risk losing their jobs. This is illustrated when "'several interviewees suggested that the old imperative to 'publish or perish' is being displaced by another – 'provide or perish.'" Academics who bring in money through research grants become more influential and are accorded more power and privileges. It may be observed that ''in the big universities, not to get big funding means that you will lose your voice'' (Paul 2004, p. 240). Polster further noted that

not only are grants a condition of (some) academics doing their research, but they are

also becoming an increasingly important factor in all academics' ability to get, keep, or advance in a university job. This transformation stems in part from university administrators' growing interest in faculty members' financial contributions to their institution. It also stems from the equation of research grants with academic excellence (which is being extended from institutions to individuals) and from the mutually reinforcing dynamics between academics' granting record and reputation. (p. 602).

In the United States, it has been noted that "increased emphasis on securing external support for research and scholarly activities is related to the escalating costs of operating an institution of higher education and the simultaneous decline in state and federal support (Donaldson, 1991; Dooley, 1995; Gallaher & Daniel, 1989; McShane & Douzenis, 1987; Meyer, 1991). Gallagher and Daniel (1989) have projected that the role of externally supported research will grow in importance over time" and concluded that universities continue to rely on external funds or risk losing some of their academic programs (Sterner, 1999).

Burgoon (1988, in Sterner, 1999) however, countered that grant writing to pursue external funds for research "extends far beyond financial gain," and considered it as "both a means to, and a by-product of, scholarly excellence" (p. 256). Burgoon listed the following potential benefits of writing grants: [1] instructive and useful scholarly lessons, [2] the opportunity for faculty to engage in research that will advance theoretical knowledge in their discipline, and [3] the opportunity for students to engage in a hands-on research experience under faculty supervision, thereby enhancing the quality of undergraduate and graduate education."

Strategies that develop a culture of research and publication

Higher education institutions particularly in knowledge-driven western universities have systematically implemented strategies and established infrastructures aimed at developing a culture of research among its faculty. Based on their literature review on research productivity from 1960 through 1990, Bland and Ruffin (1992) identified "12 characteristics consistently present in research-conducive environments: [1] clear goals that serve a coordinating function, [2] research emphasis, [3] distinctive culture, [4] positive group climate, [5] assertive participative governance, [6] decentralized organization, [7] frequent communication, [8] accessible resources, particularly human, [9] sufficient size, age, and diversity of the

research group, [10] appropriate rewards, [11] concentration on recruitment and selection, and [12] leadership with research expertise and skill in both initiating appropriate organizational structure and using participatory management practices" (p. 1).

Monahan (1993) also identified four most popular reasons for faculty involvement in writing research grant proposals and subsequent engagement in research as follows: [1] to gain released time, [2] to engage in research and explore promising ideas, [3] to acquire needed equipment, and [4] to build a professional reputation" (in Sterner, 1999). Other strategies and infrastructures cited in the literature include tenure and promotion, recognition in campus-wide publications; fund generation for the institution; support in sourcing funds and coaching in proposal writing (Churchman & Hellweg, 1981; Davis & O'Hanlon, 1992; Monahan, 1993 in Sterner, 1999).

Mishler (1987) suggested establishing support mechanisms and providing incentives. Support mechanisms may be in the form of [1] physical resources such as allocating laboratory or other space for faculty engaged in sponsored research and providing state-of-the-art equipment required to carry out research activities; or [2] human resources such as [a] creating a pool of research assistants to assist faculty in conducting research and generating pilot data for external grant proposals; and [b] identifying research mentors and others to assist faculty in funded research efforts. As regards incentives, the university may [1] implement a merit system to provide salary enhancements or travel funds to faculty involved in extramural projects, and [2] provide reduced teaching loads/released time for involvement in sponsored research. Teachers may also be encouraged to prioritize developing the skills necessary to secure sponsored funds and engaging in research that complements instruction (Sterner, 1999).

In the Philippines, the Commission on Higher Education expects higher education institutions (HEIs) to engage in research. In fact, recognizing the need for more faculty involvement in research, the Commission on Higher Education developed a "ten-year National Higher Education Research Agenda (NHERA) to "delineate the policies, priorities, strategies, procedures, and guidelines for promotion, encouragement, support of research in the public and private colleges and universities in the Philippines." The National Higher Education Research goal was to establish and inculcate a culture of research in Philippine higher education institutions. Particularly, it aims to [1] increase the research productivity of Philippine higher

education institutions and individuals; [2] establish a system of research-based policy environment through periodic commissioned researches; and [3] establish support structures that would ensure long-term sustainability of research activities in Philippine higher education institutions (Alcala, Padua, & Lachica, 2009). Particularly, CHED promulgated The Higher Education Act of 1994 or RA 7722, which articulates its higher education research framework and the mechanisms aimed at enhancing faculty involvement in research including the creation of the *Republica Awards* for outstanding research and publications (Salazar-Clemena, 2006, p. 97).

However, Sison (2006), in describing the success story of the University of Santo Tomas (UST), reiterates that "incentives alone do not create a culture of research in the university." Based on this observation, UST created "a research infrastructure" that consists of the following: [a] graduate education and mentoring; [b] facilitating external support; [c] resource mobilization; and [d] research management through the creation of the Office of Research and Development (ORD), and the University Research Council (URC) to supervise the newly-created eight Specialized Research Centers.

Sison (1996) posits that a few years after the creation of the aforementioned research infrastructure, UST made it to the list of the *Top Ten International Publications* as indicated in the *National Citation Report*, 1981-June 1997 by the Institute for Scientific Information. Recognition from the *National Citation Report* is based not only on the quantity of publication in peer-refereed journal but also on the quality of such publications as indicated by how frequently they are cited by other reputable publications. Sison further emphasized that

> …citations are the most commonly used performance indicator in measuring the quality and impact of research (Garfield & Welljans-Dorof, 1992). The Institute of Scientific Information (ISI) collects citation data and publishes these annually in Science Citation Index (SCI) (Testa, 2000). The principle is based on the "'practice that during the process of research, relevant literature is surveyed and articles are selected for citation are done on the basis of their relative quality. Quality may be taken as degree to which the cited articles have made an impact on and improved understanding in the subject area" (Lee, 2004, p. 28).

Moreover, recognized international ranking of universities such as the Times Higher Education (THE) World University Rankings, the Quacquarelli Symonds (QS) World University rankings, and the Academic Ranking of World Universities (ARWU) emphasize faculty engagement in research and publication. For example, the Times

Higher Education criteria slants heavily on faculty track record in research and publication, namely 40% for review of research quality and 20% for citations per faculty (Cruz, 2007). Thus, institutional reputation hinges primarily on faculty citations in other credible, peer-refereed journals.

Barriers to academics' engagement in research and publication

According to McShane and Douzenis (1987), research fund remains as the main factor for the academics' lack of engagement in research and publication (in Sterner, 1999). Moreover, the following have been identified as common debilitating factors: [1] lack of time, [2] insufficient knowledge of the grant process and of grant sources, [3] lack of institutional resources, [4] inadequate equipment and facilities, [5] lack of administrative support, and [6] no system of rewards (Gallaher & Daniel, 1989; Monahan, 1993; Stahler & Tash, 1992).

Moreover, Sterner (1999) noted that the faculty in the primarily undergraduate institutions (PUIs) identified the following obstacles to engagement in research and publication: [1] heavy teaching loads, [2] unawareness of the importance of grant activity in the tenure and promotion process, [3] lack of graduate students, [4] difficulty in attracting high quality faculty, and [5] limited contact with other professionals in their field (Churchman & Hellweg, 1981; Donaldson, 1991; Monahan, 1993; Owen, 1992).

Silliman University may be considered PUI in the sense that a majority of its more than 6,000 students are in the undergraduate level. However, Silliman University recognizes research as among its key functions as an HEI. This is articulated in the thrust of the University, the FIRE: faith, instruction, research, and instruction (FIRE).

This paper presents the landscape of research and publication engagement of college faculty at Silliman University. The investigation seeks to: [a] generate baseline data on the number of faculty members engaged in research and publication from 1997-2007; [b] determine the factors that encourage faculty engagement in research and publication as well as those that constrain it; and c) identify strategies and infrastructures that the respondents believe need to be prioritized by the University as these would stimulate research and publication engagement among the faculty. The goal is to provide Silliman University baseline data so that the strategies and infrastructures may be reviewed and enhanced.

Particularly, the research questions are as follows:

1. What percentage of SU college faculty is engaged in research and publication in the past ten years?
2. What factors facilitate research and publication among the faculty?
3. What constraints the performance of research and publication among the faculty?
4. What mechanisms and infrastructure are already in place at Silliman and how may these be enhanced to further stimulate a culture of research and publication at SU?

METHOD

The study was conducted through questionnaire survey and interview with lead informants. The participants are academics from 5 of the 13 colleges and schools in the University. These colleges were selected because they have been identified by the Philippine Commission on Higher Education (CHED) as Centers of Excellence (COE) and Centers of Development (COD), and are therefore mandated to demonstrate leadership in research engagements. These colleges include the College of Education (COEd) and the College of Nursing (CON); as well as the colleges recognized by CHED as Centers of Development (COD), namely the College of Computer Studies (CCS) and the College of Business Administration (CBA). Moreover, the College of Arts and Sciences (CAS) was included in this research because a) the Biology Department, which belongs to the College of Arts is also recognized by CHED as a Center of Development; b) CAS serves all units in the University in terms of general education courses, and c) CAS, being the largest department in the University, has the most number of faculty members. As such, this research may be considered as an investigation on the performance of the centers of excellence and development in Silliman University, and to identify the facilitating and mitigating factors that encourage or constrain faculty engagement in research in COEs and CODs.

According to Gay and Diehl (in Bustamante, 2010), the minimum acceptable sample for descriptive studies like this is 10-20% of the population while correlation studies would require 30% with a recommended margin of error of 0.05 or 0.01. In this study the sample per department is at least 50%, and the sample per college are as follows: Arts and Sciences, 80%; Education, 93%; College of Nursing,63%; College of Business Administration, 53%; and College of Computer Studies, 90%. In sum, 107 of the 137 full time faculty

members of the aforementioned 5 colleges (78%) participated in the study.

A questionnaire was designed to generate answers to the research questions. It was then piloted in a similarly situated context so that further refinements could be made in terms of the formulation of the statements and the content. To ensure a higher response rate, a second wave of survey, particularly aimed at those who failed to return the first set of questionnaires, was conducted. The second set of questionnaires had exactly the same items; however, the cover letter was modified to underscore the importance of the research to the University and the colleges concerned; and the letter was addressed to specific faculty members.

In addition to the questionnaire, interviews with lead informants were conducted. The interviewees include the director of the Silliman Research and Development Center (RDC), who is also a Republica awardee, a faculty member who is a prolific writer and active researcher, a novice researcher, and faculty members who have not yet engaged in research and publication. The interviews were conducted to solicit more suggestions on strategies and infrastructures that would most likely widen faculty participation in research projects.

RESULTS AND DISCUSSION

This section presents the data gathered from the initial survey. Table 1 presents a comparative data on faculty involvement in research. The presentation shows the sample *vis a vis* the population, the percentage of the sample who engaged in research from 1997-2007, as well as those who published their research output in the same period. Also, motivations for faculty engagement in research as well as reasons for their non-engagement in research are presented comparatively, using both the frequency and its percentage in relation to the total sample per college.

A similar presentation is shown as regards faculty engagement or non-engagement in publication, as well as in the strategies and infrastructure the respondents felt would stimulate faculty engagement in research and publication. Research, in this study, refers to quantitative, qualitative, or a combination of approaches used to investigate field-related phenomenon as articulated in the research questions (Nunan, 2003). Publication refers to research output reports published in academic journals. In this study, any graduate research, i.e., thesis or dissertation reformatted or rewritten and accepted for

journal publication is considered a publication.

The tables are presented immediately after the discussion. Moreover, interview data are incorporated whenever they are deemed relevant to the discussion of the quantitative data.

Faculty Engagement in Research and Publication

As shown in the Table 1, 107 of the 137 (78%) of the faculty in the five Colleges identified in this study responded to the questionnaires. Of this number, 47 (44%) engaged in research projects and 29 (27%) published their research output. The college with the highest frequency in terms of faculty engagement in research is the College of Nursing (67%). This is followed by the College of Arts and Sciences (49%), the College of Business Administration (33%), the College of Education (29%), and the College of Computer Studies (11%). In terms of faculty engagement in publication, the College of Arts and Sciences ranked 1st with 37% of the respondents having published their research output. This is followed by the College of Education (21%), the College of Nursing (17%), the College of Business Administration (11%), and the College of Computer Studies. See Table 1.

Table 1

Faculty Engagement in Research and Publication (1997-2007)

Academic Units	Total Full Time Faculty	Retrieved Questionnaires (%)	Respondents with Research (%)	Respondents with Publication (%)
CAS	76	63 (83%)	31 (49%)	23 (37%)
COEd	15	14 (93%)	4 (29%)	3 (21%%)
CON	19	12 (63%)	8 (67%)	2 (17%)
CCS	10	9 (90%)	1 (11%)	0 (0%)
CBA	17	9 (53%)	3 (33%)	1 (11%)
TOTAL	**137**	**107 (78%)**	**47 (44%)**	**29 (27%)**

Factors that facilitate faculty engagement in research and publication

For faculty members engaged in research, the main motivation is their belief that research establishes their credibility in the profession as well

as validates the University status during accreditation. The response also showed that institutional infrastructures such as incentives given by the University for research and publication, and productivity in terms of research and publication as a requirement for promotion in rank also encouraged the faculty to engage in research. It is also noteworthy that attendance in conferences where papers are read has also been pointed out as a factor encouraging other participants to engage in research. This was supported in the interviews, where most of the interviewees recounted being challenged to write research proposals and to engage in research when they saw that the research projects presented during the conferences were "doable."

Table 2

Reasons for Engagement in Research

Reasons	CAS (n=63)	COEd (n=14)	CON (n=12)	CCS (n=9)	CBA (n=9)	TOTAL (N=107)
1. Belief that research is part of professional growth	21 (33%)	5 (36%)	6 (50%)	0	1 (11%)	**33 (31%)**
2. Knowledge that research is a plus factor in accreditations	16 (25%)	3 (21%)	7 (58%)	0	3 (33%)	**29 (27 %)**
3. Awareness of the Silliman University cash incentives for research and publication	13 (21%)	4 (29%)	5 (42%)	0	2	**24 (22%)**
4. Thesis/dissertation requirement	11 (18%)	4 (29%)	1 (8%)	2 (22%)	3 (33%)	**21 (20%)**
5. Knowledge that research is a requirement for promotion in rank	11 (18%)	4 (29%)	5 (42%)	0	1 (11%)	**21 (20%)**
6. Inspiration from other participants who presented research outputs in conferences attended	11 (18%)	3 (21%)	3 (25%)	0	2 (22%)	**19 (18%)**
7. Inspiration from colleagues in the department who also conducted research	6 (10%)	3 (21%)	6 (50%)	0	2 (22%)	**17 (16%)**

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Table 2 (Continued...)

Reasons for Engagement in Research

Reasons	CAS (n=63)	COEd (n=14)	CON (n=12)	CCS (n=9)	CBA (n=9)	TOTAL (N=107)
8. Mentoring by a colleague	7 (11%)	2 (14%)	5 (42%)	0	0 (0%)	**14 (13%)**
9. Inspiration to conduct research during the CHED Research Zonal Center workshop on research proposal writing	6 (10%)	2 (14%)	2 (17%)	0	3 (33%)	**13 (12%)**
10. Information about agencies that provide funding for research	7 (11%)	2 (14%)	2 (17%)	0	1 (11%)	**12 (11%)**
11. Information on the benefits of research and publication engagement during the during research proposal writing workshops conducted by the CRD	3 (5%)	2 (14%)	2 (17%)	0	1 (11%)	**8 (8%)**

Other reasons that have also been identified by the respondents from the various colleges as sources of motivation to conduct research are as follows: [1] exposure to professional organizations; [2] being invited by a national professional organization to present a paper at its next conference; [3] intellectual engagement/enrichment from participation in local, national, and international conferences; [4] pride at being tasked by a supervisor to write research reports; [5] personal interest in research as it is "a welcome change from the limited world of the classroom"; [6] previous experience in research even before becoming a teacher; and [7] opportunity to travel abroad.

It must also be noted that experience in research during the undergraduate course or as a graduate research assistant has been identified both in the survey and the interview as a motivating factor for engaging in research activities. A respondent from the Biology department exemplified this when he wrote: *"I started as a graduate research assistant at the Marine Laboratory. Initially, I wanted research only. I did not know that whatever research you have done and presented or published had anything to do with teaching; I learned that later."*

A similar idea was emphasized by one of the interviewees. He

said that he got "hooked" on research as a graduate research assistant, primarily because his professors were constantly engaged in research projects. It was then that he realized that research provides not only a viable source of funding but also a source of professional and personal satisfaction. He recalled having "fun" doing research in the various communities, and "feeling good" that he was becoming a part of a recognized research group in the University at that time.

Barriers to faculty engagement in research and publication

Those who did not conduct any research from 1997-2007 attributed their inability to engage in research projects primarily to their heavy teaching load and housework and other family responsibilities. However, it is rather interesting to note that while 26% of the respondents cited teaching overload as a deterrent to research engagement, a good number of them (14%) also indicated their preference for teaching overload over research activities.

As shown in Table 3, teaching overload has been identified by the greater number of respondents as the main debilitating factor for their non-engagement in research. This is followed by house work and other family responsibilities, lack of awareness of research opportunities and sources for funding for research, and preference for teaching overload. Teaching overload has also been repeatedly mentioned by the interviewees as the main reason for faculty non-involvement in research. The interviewees reiterated that many teachers are too busy and preoccupied with lesson preparation and other routine teaching and evaluation activities such as checking voluminous papers, which leave them neither the time nor the energy to conduct research. Similar observations may be drawn from the National Norms for the 2007-2008 Higher Education Research Institute (HERI) Faculty Survey in the United States, which show that while the faculty recognize the importance of engaging in research and sourcing "external funding" through research, "41.1 percent of the respondents spend 13 hours or more per week in preparing for their classes and 19.6 percent of the respondents spend 13 hours or more for scheduled teaching (DeAngelo, Hurtado, Pryor, Kelly, Santos, & Korn, 2008).

Another reason that has also been mentioned during the interviews is the "absence of a culture of research" in the department or the college. The prevalent comment was that since their deans and department heads are not even conducting research, they do not feel the value of doing the same.

Table 3

Reasons for Non-engagement in Research

Reasons	CAS (n=63)	COEd (n=14)	CON (n=12)	CCS (n=9)	CBA (n=9)	TOTAL (N=107)
1. Too busy because of teaching load	17 (27%)	5 (36%)	3 (25%)	0	3 (33%)	**28 (26%)**
2. House work and other family responsibilities	15 (24%)	5 (36%)	2 (17%)	1 (11%)	2 (22%)	**25 (23%)**
3. Not aware of any research opportunities or funding	10 (16%)	4 (29%)	0	1	0	**15 (14%)**
4. Preference for teaching overload over conduct of research	9 (14%)	4 (29%)	0	0	2 (22%)	**15 (14%)**
5. Admin and colleagues' non-engagement in research	8 (13%)	2 (14%)	0	1 (11%)	0	**11 (10%)**
6. Feeling of inadequacy and lack of competence in writing research proposals or conducting research	7 (11%)	4 (29%)	0	0	0	**11 (10%)**
7. Lack of knowledge on whom to approach regarding research possibilities and proposals	6 (10%)	2 (14%)	0	1 (11%)	0	**9 (8%)**
8. Lack of emphasis on research as a thrust in the college/department	4 (6%)	2 (14%)	0	0	0	**6 (6%)**
9. Belief that teachers must focus on teaching, NOT research	4 (6%)	1 7%)	0	0	0	**5 (5%)**
10. Too many committee assignments	2 (3%)	2 (14%)	2 (17%)	0	1 (11%)	**7 (7%)**
11. Too many administrative tasks	1 (2%)	2 (14%)	0	0	0	**3 (3%)**

Factors that motivate the faculty to engage in publication

It appears that the main motivating factors for faculty engagement

in publication are [1] professional growth, *i.e.,* that publication is integral to one's professional growth and professional credibility; and [2] monetary and promotion incentives for publication of research-based articles. Mentoring by colleagues in the department who have already published also motivate those who have conducted research to publish their research findings in scholarly journals. On the other hand, the few researchers who failed to publish cited teaching load, poor writing skills, and lack of access to information on the research process and funding agencies that would finance publication of research as among the reasons for their inability to publish their research findings. See Table 4.

Table 4.

Reasons for Non-engagement in Publication

Reasons	CAS (n=63)	COEd (n=14)	CON (n=12)	CCS (n=9)	CBA (n=9)	TOTAL (N=107)
1. Too busy with teaching tasks	2 (3%)	3 (21%)	5 (42%)	0	2 (22%)	**12 (11%)**
2. Feeling of inadequacy in terms of writing skills to write a publishable report	1 (2%)	4 (29%)	2 (17%)	0	1 (11%)	**8 (8%)**
3. Lack of knowledge on how to re-package graduate thesis/ dissertation into publishable format	1 (2%)	3 (21%)	0	1 (11%)	2 (22%)	**7 (7%)**
4. Lack of knowledge on the procedures and dynamics of getting published	1 (2%)	3 (21%)	0	1 (11%)	1 (11%)	**6 (6%)**
5. Lack of knowledge of any funding agency willing to finance the publication of research output	1 (2%)	1 (7%)	0	0	1 (11%)	**3 (3%)**
6. Apprehension that the output may NOT be accepted for publication	0	3 (21%)	2 (17%)	1 (11%)	1 (11%)	**7 (7%)**

Table continued in the next page...

Table 4 (Continued...)

Reasons for Non-engagement in Publication

Reasons	CAS (n=63)	COEd (n=14)	CON (n=12)	CCS (n=9)	CBA (n=9)	TOTAL (N=107)
7. Too busy with housework and other personal responsibilities	0	3 (21%)	5 (42%)	0	2 (22%)	**10 (9%)**
8. Lack of knowledge of any scholarly journal in the discipline or area of specialization	0	2 (14%)	0	0	1 (11%)	**3 (3%)**
9. Funding for publishing thesis/dissertation not included in thesis/ dissertation grant	0	1 (7%)	2 (17%)	0	2 (22%)	**5 (5%)**
10. Cost of publishing at Silliman Press	0	0	2 (17%)	0	1 (11%)	**3 (3%)**
11. Belief that *Silliman Journal* focuses only on natural sciences	0	0	0	0	1 (11%)	**1 (1%)**

Consistent with the reasons for faculty non-engagement in research, the main "pull factors" for faculty publication are teaching overload, housework, and other personal responsibilities. Most of the respondents felt that they are not competent enough to write research proposals or research report and fear that their research article will be rejected by journals. This is followed by another related reason—the lack of knowledge of the procedures and dynamics of getting their research article published.

It must also be noted that during the interviews, one of the respondents lamented the fact that the Faculty Salary Adjustment Scheme (FSAS) puts a ceiling on the number of publication one may get credit for in a given year. He stated that "in reputable universities like the University of the Philippines, there is no cap on the number of researches and publication a professor may be given cash incentives for." He reasoned that the ceiling curtails faculty initiative and engagement in research. He reiterated that the role of the faculty is to seek to contribute to the body of knowledge through research, while the role of the administration is to seek sources so that

faculty who play their roles well, who bring in revenues in terms of research funding, and who contribute to the distinction of Silliman as a reputable institution are sufficiently compensated and recognized.

On the other hand, another interviewee emphasized that the University's incentive package should already encourage concerned faculty to engage in research and publication. He reiterated that in addition to the FSAS cash incentives and incentives in terms promotion in rank, the University has assigned some faculty members "research loads," equivalent to three or six units. On the other hand, the RDC director Enrique Oracion expressed his reservation on the granting of research loads to faculty members who intend to research or have submitted research proposals for such purpose. Oracion said that there were instances when faculty members given such research loads failed to pursue their intention of conducting research or may have started collecting data but did not complete the whole research process or submit their research output. Yet, they have already been paid for the three or six-unit research load. Oracion, therefore, emphasized that the cash incentive may be a more effective strategy since the incentive is not awarded until after the research output has been presented in a research symposium organized for such purpose or when the research article has been accepted in peer-refereed academic journal. This not only facilitates faculty engagement in research and publication but provides a mechanism where the quality of research and publication is ensured.

This is consistent with the recommendation of Alcala, Padua, and Lachica (2009) in their evaluation of the National Higher Education Research Agenda –I, which was implemented from 1997 to 2008. They noted that even with the incentives and capacity building activities, there was "low effectiveness index for capability building programs for individuals (author:trainee ratio)." They therefore recommended that "capability building programs that will be supported by CHED will henceforth be output-based i.e. should result in publishable papers," or "purposive" rather than "adhoc."

Moreover, the University, through the Research and Development Center (RDC), offers faculty development grant for research in the amount of P50,000 for teachers who have not yet established their names as researchers, so that with their initial research experience, they would be trusted by external funding sources when they submit research proposals in the future. The RDC, in collaboration with the *Silliman Journal* and the College of Education Center for Excellence in Learning, Teaching, and Assessment (CELTA), has in 2008 started

conducting a series of workshops on writing research proposals, conducting research, and writing for publication to empower interested faculty and departments to engage in research in their respective areas of specializations and write research articles for publication. On the other hand, majority of the faculty-respondents reiterated that even with better incentives for faculty productivity in research and publication, many are not engaged in research and publication because of the lack of a mentoring system and capacity building activities in each department or college. The respondents reiterated that the same few individuals are engaged in research and publication because they have already established networks and have already "figured out" the mechanism and processes for proposal or grant writing, research, and publication. "It is also more or less the same people who will get the incentives year after year," said one respondent.

In the experience of CHED National Higher Education Research Agenda (NHERA), 283 capacity building activities were conducted from 1998-2007. These were "mostly in a form of seminars, workshops, and focused group discussions" aimed at developing or honing participants' research skills including skill in preparing research proposals, writing for refereed journals, and skills needed for paper presentations "The effectiveness of the capability building activity is reflected in the number of proposal submitted after the activity" (Alcala, Padua, and Lachica, 2009). However, it was noted that the effectiveness index of the capacity building activities were low in terms of author-trainee ration. Thus, the evaluators suggested strengthening the Senior Visiting Fellows Program (SVFP) by ensuring that [a] each SVF takes care of mentoring at least three HEIs through regular monthly consultations for two years; and [b] the SVF receives a competitive monthly support from CHED/HEI. This is similar to the suggestion of some respondents in this study that mentors should be granted an honorarium equivalent to a three or six-unit load, but that such be awarded to the mentor after the publication of his/her mentee's article in an accredited peer-reviewed journal.

Strategies that stimulate research and publication activities

As shown in Table 5, the most frequently identified strategies that stimulate research and publication activities among the faculty are: [1] granting of extra 3 or six-unit load; [2] establishing a mentoring system where experienced researchers and writers coach and closely

supervise those who have just started to engage in research and publication; and [3] conducting a series of workshops on the procedures and dynamics of getting one's work published in particular journals. The faculty respondents also believe that the concerned office in the University must identify and tap funding agencies where research proposals may be submitted. Such office should also conduct a series of workshops to develop among the faculty skills in research proposal writing, conducting research, and writing the research article for specific journals. This was also reiterated during the interviews, especially with the interviewee who had little or no experience in research and publication.

Table 5

Suggested strategies and infrastructure

Strategies and Infrastructure	CAS (n=63)	COEd (n=14)	CON (n=12)	CCS (n=9)	CBA (n=9)	TOTAL (N=107)
1. Granting of 6-unit credit to faculty who engage in research	10 (16%)	8 (57%)	10 (83%)	5 (56%)	2 (22%)	35 (33%)
2. Establishment of a mentoring system	8 (13%)	9 (64%)	8 (67%)	5 (56%)	3 (33%)	33 (31%)
3. Workshops on how the procedures and dynamics of getting published in particular journals	6 (10%)	10 (71%)	7 (57%)	5 (56%)	3 (33%)	31 (29%)
4. Identifying and tapping funding agencies to fund research and development activities	8 (13%)	10 (71%)	8 (67%)	3 (33%)	0	29 (27%)
5. Allotting a 3-unit research load in the teacher's full load	7 (11%)	5 (36%)	8 (67%)	3 (33%)	3 (33%)	26 (24%)
6. Facilitating a system of wider and more frequent dissemination of research and development opportunities by concerned offices	6 (10%)	8 (57%)	7 (58%)	3 (33%)	1 (11%)	25 (23%)

Table continued in the next page...

Table 5 (Continued...)

Suggested strategies and infrastructure

Strategies and Infrastructure	CAS (n=63)	COEd (n=14)	CON (n=12)	CCS (n=9)	CBA (n=9)	TOTAL (N=107)
7. Providing faculty with a list of journals for the various areas of specialization	7 (11%)	2 (14%)	4 (33%)	3 (33%)	1 (11%)	17 (16%)
8. Encouraging administrators to conduct research by specifying that their 6-unit overload to include 3units of research	3 (5%)	6 (43%)	4 (33%)	0	1 (11%)	14 (13%)
9. Silliman Press printing cost re-examined	3 (5%)	5 (36%)	1 (8%)	0	2 (22%)	11 (10%)
10. Limiting teaching overload to only 6 units to encourage faculty to engage in research	3 (5%)	7 (50%)	4 (33%)	1 (11%)	0	15 (14%)
11. Limiting committee assignments	2 (3%)	4 (29%)	4 (33%)	0	0	10 (9%)

Other strategies suggested by the faculty during informal interviews, and as additional notes written on the questionnaire, include the following: [1] make research productivity a condition for assigning overloads, that is, that "only faculty members who engage in research shall be allowed an overload of more than six units" so that teachers who wish to have teaching overload will be compelled to engage in research; [2] propose a mechanism that facilitates a "publish or perish" system in the University, in consultation with the SUFA; [3] provide as many faculty members equal opportunity to attend conferences so they will be encouraged to participate in research projects and present their own research outputs; [4] provide an incentive, e.g., unit load or cash incentive to researchers who mentor junior faculty or colleagues, to be awarded only after the mentee has already published the research report; and [5] conduct more workshops on how to repackage thesis and dissertation output,

write research proposals. The respondents also suggested that workshops on how to write research articles for particular refereed, nationally or internationally circulated journals should be done at the department level.

An interviewee suggested that the incentives given to the faculty every year should not be awarded based solely on the evaluation done by the instruction office but should include points for research and publication. The same interviewee also suggested that research and publication be considered a criterion in the nomination and selection of department chairs and college deans, so that the administrators themselves demonstrate leadership in research and development activities.

SUMMARY, CONCLUSION, AND RECOMMENDATIONS

In terms of RQ 1, data show that in terms of research engagement of the faculty, the College of Nursing ranks first with 67% of its faculty having conducted research from 1997-2007, followed by the College of Arts and Sciences with 49%, the College of Business Administration (33%), the College of Education (29%), and the College of Computer Studies (11%). Moreover, as regards publication, the College of Arts and Sciences ranked 1st with 37% of its faculty having published. This is followed by the College of Education (21%) and the College of Business Administration (11%). At the time this research was conducted, none of the respondents from the College of Computer Studies reported having published their research output.

As for RQ 2, the following are the top five factors that faculty in the College of Arts and Sciences, Education, Nursing, CBS, and CCS believe motivated them to engage in research: [1] the belief that research is integral to their professional growth as a teacher; [2] accreditation; [3] incentives for research; [4] promotion in rank, and [5] thesis/dissertation requirements. On the other hand, the following are the five most frequently identified reasons for their non-engagement in research: [1] preoccupation with teaching and preference for teaching overload; [2] housework; [3] lack of awareness of any research opportunities or funding; [4] administrators' and colleagues' non-engagement in research; and, [5] lack of competence and expertise in writing proposals or writing for publication.

As for productivity through publication, those who published are motivated to do so because of the following: [1] professional

growth; [2] incentives for publication; [3] professional credibility; [4] invitations by colleagues to participate in research projects; and, [5] accreditation. The majority of the respondents who have not published from 1997-2007 were unable to do so because of the following: [1] teaching tasks; [2] the belief that they do *not* have the necessary writing skill needed to produce a publishable report; [3] housework and family responsibility; [4] lack of knowledge on how to repackage their theses/dissertation to meet the technical and requirements of particular journals; and [5] lack of knowledge of the procedures and dynamics of getting a work published.

As for RQ 3, the respondents suggested the following strategies and infrastructure to improve or widen faculty participation in research projects and to publish their research output: [1] establishing a mentoring system where faculty members who have already conducted research and published their research findings closely supervise and coach those who have not yet engaged in research and publication; [2] crediting at least six units to faculty who engage in research, the credit awarded only once the output has been published in scholarly journals; [3] conducting workshops on how to get a work published in appropriate journals; [4] facilitating a system of wider and more frequent dissemination of research and development opportunities from concerned offices; and, [5] tapping more funding agencies to fund the research and development activities of the faculty. It is also worth noting that the both the RDC director and the faculty respondents emphasized the crucial role of capacity building activities particularly mentoring in cultivating a rich research culture. Moreover, they reiterated that for this to be productive, the mentors should be granted commensurate honorarium payable only when their mentee's work has already been published in credible, accredited peer-refereed journals.

It may be concluded from the findings of this study that Silliman University faculty engagement in research and publication activities has not yet reached a level of maturity where a rich culture of research is clearly demonstrated. Data from both the survey and the interviews suggest that although some members of the college faculty are recognized nationally and internationally for their notable contributions in their fields through their research work, the majority of Silliman University faculty has yet to engage in research and publication. Moreover, although infrastructures for research and development at Silliman University are in place, these have not been systematically or fully utilized to support faculty research endeavors.

For instance, although incentives for productivity and publication are in place, more or less the same few individuals earn these rewards because of the lack of localized and systematic capacity building and mentoring program in each college or department. Such department or college-based capacity building and peer coaching program may broaden faculty engagement in research and publication.

Silliman University may need to re-examine the efficiency and effectiveness of the existing infrastructures aimed at stimulating research and publication activities among college faculty. If the COEs and CODs are to be the bench mark of status of the University in terms of research and publication, it is clear from the data that much has yet to be done. Silliman University's thrust, Faith, Instruction, Research and Extension (FIRE), articulates the University's commitment to Christian education and the trifocal function of Higher Education Institutions (HEIs). Silliman sees itself as a research institution. Thus, it must re-evaluate the implementation of existing infrastructures to ensure that the University is not only accomplished in terms of a few of its faculty who have built a reputation in their field of specialization, but also in the increased number of faculty members who have made such distinction. It may also be deduced that the Silliman University experience in terms of faculty engagement in research and publication is a microcosm of the larger Philippine context. In fact, in evaluating the CHED National Higher Education Research Agenda(NHERA) - I, which was implemented from 1997 to 2008, Alcala, Padua, and Lachica (2009) reiterated that despite the infrastructure established by CHED through the Zonal Research Centers (ZRCs),

> it is sad to note… that only 107 of the 511 HEIs were involved in these research activities spearheaded by the ZRC—which only account for 22 per cent of the HEIs. This means only about one in every five HEIs were involved in research involving the ZRCs.

This investigation may therefore be replicated in other similarly situated contexts, in the Philippines and Other Developing Countries (CODs) and Least Developed Countries (LDCs). As Meek, Teichler, & Kearney (2009) emphasized in their review of the programs of the *UNESCO Forum on Higher Education, Research and Knowledge* from 2001 to 2009, "even the poorest nations require research capacity, or access to research findings, to progress; and so it could be argued that support for the principle of a research university in these contexts is more urgent than ever" (p. 12).

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