

National Higher Education Research Agenda - 2 NIHERA 2 2009-2018

Republic of the Philippines
Office of the President
COMMISSION ON HIGHER EDUCATION
(CHED) 2009



FOREWORD

Analysts of the knowledge society or knowledge economy characterize the university not just as a generator of knowledge, an educator of young minds and a transmitter of culture but also as a major agent of economic growth. It is both a Research and Development laboratory and a mechanism through which the nation builds its human capital to enable it to actively participate in the global economy.

The *UNESCO World Declaration on Higher Education for the Twenty-first Century* acknowledges that “knowledge creation, transmission and application are the lifeblood of the knowledge-based economy” and higher education institutions are among the primary entities tasked “to generate, transmit, disseminate and apply knowledge.” They are thus a major component of the nation’s research and innovation system. Moreover, from the perspective of education, vigorous and high quality research underpins and nourishes degree-level learning environments, especially for graduate and post-graduate programs; it provides the inquisitive, critical and independent regimen that develops intellectual capability and advances the boundaries of knowledge and understanding.

The Commission on Higher Education is mandated to promote, direct and support higher education institutions in performing their research and instruction functions. With the objective of enabling our colleges and universities to produce high quality research that will advance learning and national development, as well as international comparability of the Philippine higher education system, the National Higher Education Research Agenda was developed by CHED and partner institutions/agencies.

The NHERA provides the policies, directions, priorities and thrusts of Philippine higher education research in the medium to long term. Essentially, it encourages networking among HEIs, with each network focusing on themes wherein the members are or can be good at. It promotes partnerships/collaboration of HEIs with other research institutions, local and foreign, as well as with industry and private laboratories, for the conduct of research, and application of research outputs.

NHERA also includes a system of incentives and rewards for outstanding performance in terms of:

- Producing and creating leading edge knowledge;
- applying that knowledge; and
- disseminating that knowledge to students and the wider community.

The first NHERA covered the period 1998-2008 including extension, this second NHERA or NHERA-2 will be for the period 2009-2018. The initiatives under NHERA-1 to improve research capability and productivity among HEIs will be sustained and new challenges will be addressed under NHERA-2 so that higher education research could create appreciable impacts not only across all disciplines of higher education but also in the more real-world socio-economic and cultural milieu.



EMMANUEL Y. ANGELES

Chairman

INTRODUCTION

Background and Rationale

Research, as a major function in higher education, sets higher education apart from basic education. In the Bologna Ministerial Meeting of 2007 the world leaders in higher education explicitly stated: “The basis of research in higher education is its independence and search for truth which justifies higher education’s continued exercise of academic freedom”. Furthermore, the UNESCO World Declaration on Higher Education for the Twenty-first Century accents the important role of research in higher education viz: “State policies must promote and develop research, which is a necessary feature of all higher education systems, in all disciplines, including the human and social sciences and arts, given their relevance for development”.

Research in higher education across all disciplines ensures the continued growth and development of the entire higher education sector.

In the Philippine context, Republic Act No. 7722 known as the “Higher Education Act of 1994” mandates the Commission on Higher Education to perform the following functions relative to research (Section 8, RA 7722):

- b) *formulate and recommend development plans, policies, priorities and programs on research;*
- ...
- e) *recommend to the executive and legislative branches, priorities and grants on higher education and research;*
- ...
- i) *develop criteria for allocating additional resources such as research and program development grants, scholarships, and other similar programs; Provided, that these shall not detract from the fiscal autonomy already enjoyed by colleges and universities;*
- ...
- j) *direct or redirect purposive research by institutions of higher learning to meet the needs of agro-industrialization and development;*

NHERA-1 (1998-2008)

In line with the said mandates, the following goals for higher education research were set for NHERA-I:

- Push the frontiers of knowledge across all the identified higher education disciplines in the country;
- Enhance instruction through original contributions in specialized disciplines thereby encouraging students to become themselves creative, innovative and productive individuals; and
- Develop unifying theories or models which can be translated into mature technologies for the purpose of improving the quality of life of the Filipinos within the sphere of influence of academic institutions in the country.

Towards the attainment of these goals, nine priority clusters and 17 priority disciplines were identified, with special emphasis on researches that are multidisciplinary, leading edge scientific or technological, breakthrough or pioneering, and/or policy oriented. CHED supported the agenda with a budget allocation of P376M for a period of 10 years, specifically to provide:

- Conducive policy environment for the management and administration of research;
- technical assistance for research; and
- funding/financial assistance for research in higher education in the form of block grants, grants-in-aid and commissioned research.

Three years into the implementation of NHERA-1, the Zonal Research Center component was added. This involved the establishment of twelve ZRCs in higher education institutions that are known for their strong research tradition and leadership. These ZRCs were tasked to help CHED in promoting research and building research capacity in the higher education institutions within the zones assigned to them and to bring closer to the HEIs the assistance necessary to strengthen their research function. Nine of these ZRCs operated for six years while three operated for three years.

With the objective of facilitating the transfer and utilization of HEI research outputs for development, the Commission decided in 2005 to include an Integrated Research Utilization Program in the NHERA. Under this program,

funding assistance was provided for the transfer, utilization/commercialization of technologies developed by the HEIs.

Other additions to NHERA-1 are three programs for recognizing and rewarding research productivity: the Research and Publication Award (REPUBLICA) which was launched in 2004, the Best Higher Education Institution Research Program Award which was initiated in 2005 and the Outstanding Higher Education Extension Program Award which was granted for the first time in 2008.

At the end of NHERA-1, a Technical Working Group was created by CHED to review the Agenda and formulate its successor, NHERA-2, taking into consideration the new challenges and opportunities posed by the rapid developments in ICT, emergence of new fields like nanotechnology, globalization, and the knowledge-based economy.

NHERA-2 (2009-2018)

NHERA-2 restates the general policies that should guide higher education research, presents strategies and initiatives to develop research capacity and enhance research productivity in higher education institutions, and identifies priority areas for research and research-related programs in the next ten years. It is a product of a series of roundtable discussions on the changing conditions of higher education in the country and the state of research in Philippine colleges and universities. It incorporates the best thinking of national experts including institutional leaders, senior researchers and representatives from organizations that fund research.

The Agenda is directed at three primary audiences, each playing a vital role in shaping Philippine higher education – state policy makers, institutional leaders, and researchers. It is designed to help them consider what types of research would contribute most to national development and to the advancement of the disciplines, and hence, should be supported.

NHERA is an evolving document and will thus be periodically reviewed and updated to respond to the changing times and needs of society.

ACRONYMS

ASEAN	- Association of South East Asian Nations
CHED	- Commission on Higher Education
CHEDRO	- Commission on Higher Education Regional Office
CMO	- CHED Memorandum Order
COMSTE	- Congressional Commission on Science and Technology and Engineering
DBM	- Department of Budget and Management
DOH	- Department of Health
DOLE	- Department of Labor and Employment
DOST	- Department of Science and Technology
EDCOM	- Congressional Commission on Education
GIA	- Grant-in-Aid
HEI	- Higher Education Institution
ICT	- Information & Communication Technology
IRUP	- Integrated Research Utilization Program
JAS	- Journal Accreditation Service
MOA	- Memorandum of Agreement
NEDA	- National Economic and Development Authority
NIBRA	- National Integrated Basic Research Agenda
NUHRA	- National Unified Health Research Agenda
NSTP	- National Service Training Program
OPPRI-RD	- Office of Policy, Planning, Research and Information-Research Division
R & D	- Research and Development
S & T	- Science and Technology
SUC	- State University and College
UNESCO	- United Nations Educational, Scientific and Cultural Organization
ZRC	- Zonal Research Center

NATIONAL HIGHER EDUCATION RESEARCH AGENDA - 2 (2009-2018)

General Principles on Higher Education Research

Higher education research shall be guided by the following general principles:

1. Research is the ultimate expression of an individual's innovative and creative powers. The higher education sector shall ensure that the academic environment nurtures and supports Filipino research talents.
2. Research thrives in an environment characterized by free flow of information, honest and analytical exchange of ideas, and supportive policy and administrative structures. Higher education policies shall enhance the institution's and the individual's capacity to conduct independent, collaborative and productive research.
3. Research is one of the main functions of the higher education sector. Universities in particular, are expected to lead in the conduct of discipline-based, policy-oriented, technology-directed and innovative/creative researches that are locally responsive and globally competitive.

Goals and Objectives

NHERA-2 shall support the higher education sector's goals to develop high level and globally competitive workforce, generate/transfer knowledge and technology for enhancing productivity and quality of life in order to reduce poverty and ensure sustainable development in the country.

The following objectives shall be pursued under NHERA-2:

1. Improve research capability of HEIs, particularly the Philippine universities whose main business is to generate knowledge towards international competitiveness;
2. Enhance research productivity of HEIs in distinctive areas of competence;

3. Generate knowledge/technologies needed for
 - a. International, national and regional higher education development,
 - b. policy/plan formulation, particularly for higher education
 - c. developing innovative programs in cutting edge higher education fields (e.g. nanotechnology, biotechnology, information and communications technology, and materials science); and
 - d. advancing the frontiers of knowledge in the disciplines
4. Promote and facilitate dissemination and utilization of research outputs

Agendum 1. Improving research capability of HEIs towards international competitiveness

NHERA-1 began a massive research capability program for HEIs in the country. However, such capability building activities were focused on the more generic aspects of research which cut across all disciplines e.g. research methodologies, data analysis, proposal preparation and others. In order to address the peculiar requirements of each higher education discipline for research, NHERA-2 shall concentrate on research capability building by discipline.

Strategies and initiatives for Agendum 1

1. ***Research capability building programs.*** CHED shall provide funds to support graduate scholarships and fellowships, including but not limited to: thesis grants, dissertation grants, and travel grants for presentation of research papers in national and international conferences. CHED shall likewise strengthen the Visiting Research Fellows Program in order to assist promising HEI's in their quest for research excellence.
2. ***Strengthening graduate education in priority disciplines.*** It is generally recognized that graduate education plays a critical role in producing the experts needed to revitalize research in the country as well as the bulk of research outputs needed for development, education and policy formulation. Hence, there is a need to strengthen graduate programs in priority disciplines. Promising HEIs with the capacity or reputation to undertake research on these disciplines shall be targeted for technical and financial assistance. The various Centers of Excellence shall also be tasked to perform leadership roles in providing strong graduate programs in these disciplines.

Agendum 2. Enhancing research productivity of HEIs

Analysis of the research productivity (in terms of the publications of higher education faculty) of HEIs shows that the implementation of NHERA-1 resulted in roughly 33% increase in faculty publications benchmarked from the EDCOM (1993) report. However, most of the publications were concentrated in the “soft sciences”. NHERA-2 will increase research productivity in every higher education discipline and improve research to faculty ratio.

Strategies and initiatives for Agendum 2

1. ***Funding research in and on higher education.*** CHED shall provide funding for the conduct of research in identified priorities. Funding shall be in the form of Grants-in-Aid or commissioned research grant.

Grants-in-Aid shall be made available to researchers in both public and private higher education institutions who can and want to do research on the priority areas.

Commissioned research grants shall be available for specific topics or issues/ problems which the Commission deems important in the pursuit of its mandates.

2. ***Institutionalization of a system of rewards and incentives for research undertakings and outputs of HEI faculty and researchers.*** In order to encourage faculty and institutions to conduct and invest in research, the Commission shall adopt a system of recognizing outstanding researchers and outstanding research programs and outputs. Excellence in research shall be recognized through various awards and other incentives, including, but not limited to: REPUBLICA, Best HEI Research Program Awards, Outstanding HEI Extension Program Awards, and professorial chairs in public or private institutions.

3. **Journal Accreditation Service.** A system of accreditation of research journals shall be established to ensure adoption of fair and impartial refereeing system for all research journals in higher education in the country. The JAS shall serve as a mechanism through which a national standard for peer review and journal refereeing system can be implemented uniformly for all research journals published by the Philippine HEIs and other professional organizations.

Agendum 3. Generating new knowledge needed for the advancement of higher education as well as for national development

Under NHERA-1, studies were commissioned to generate knowledge needed to improve policies and the implementation and administration of higher education in the country. These focused mostly on the rationalization of the higher education system and on addressing the manpower demand-supply mismatch. At the same time, GIAs were provided for research in aid of national and regional thrusts, particularly biodiversity and environmental management, human resource development, agriculture and agri-based micro-small-medium scale enterprises, tourism, ICT-related concerns, and others.

Under NHERA-2, the higher education sector will continue to work in tandem with the science and technology, industry, agriculture, energy and other sectors to address the research priorities for development. Greater attention shall, however, be accorded to the studies that would generate inputs for the formulation of policies, plans, programs and projects, and produce/adapt technologies for enhancing quality, relevance, access and equity, and efficiency and effectiveness in higher education.

In addition, priority shall be given to research aimed at developing innovative programs in cutting edge higher education fields (e.g. nanotechnology, biotechnology, information and communications technology, and materials science), and advancing the frontiers of knowledge in the disciplines.

NHERA-2 aims to place Philippine higher education in the international research community through awards and recognition of Filipino researchers in cutting edge disciplines as well as in other priority disciplines.

Strategies and initiatives for Agendum 3

1. ***Dovetailing higher education research with R & D initiatives of the Department of Science and Technology and other donor/research agencies.*** CHED and higher education institutions are part of the National Innovation System which comprises a number of R & D funding and implementing entities. The higher education sector's research program should thus complement and be in harmony with the R & D efforts of the other members of the national innovation system -- DOST, Department of Agriculture, Department of Energy, Department of Environment and Natural Resources, Congressional Commission on Science and Technology and Engineering, and others.
2. ***Networking.*** Networks or consortia shall be formed between and among higher education institutions with research expertise in identified priority themes/ disciplines, to pool resources of the better institutions and allow sharing of these resources for research capability building and conduct of research. The nodes of the networks shall be Centers of Excellence/Centers of Development, Autonomous HEIs and institutions with Level II-IV accredited programs in the priority discipline.
3. ***Establishment of zonal research laboratories with state-of-the-art facilities and equipment for cutting edge technology research.***
4. ***Visiting scholars and fellowship program.*** CHED shall continue to promote the Visiting Research Fellowship Program in order to provide participating HEIs with the needed high level expertise to establish and develop the culture of research in these institutions.

Agendum 4. Promoting and facilitating dissemination and utilization of research outputs

With CHED support, faculty researchers were able to present their research outputs in international conferences/fora during the last four years of NHERA-1. National and international research conferences were also organized and hosted by CHED and partner institutions/organizations.

The Integrated Research Utilization Programs which were introduced in 2005 enabled SUCs to utilize technologies that they had developed for their own Income Generating Projects or transfer these to end-users for livelihood and employment generation. Their technology transfer activities gave rise to livelihood projects that provided employment for breadwinners in their host communities.

Information dissemination activities will be expanded under NHERA-2 in anticipation of increased research productivity among HEIs. Support shall also be provided for the publication of research papers in refereed journals. The IRUP will be sustained with focus on utilization of research outputs for income generating projects that will help SUCs generate more funds to be funneled back to research and instruction.

Strategies and initiatives for Agendum 4

1. ***Supporting dissemination of research outputs.*** Cognizant of the need to make research results known and disseminated worldwide, CHED shall provide financial support for the conduct of and participation in dissemination activities such as research fora, seminars and conferences, and for publication in/of refereed research journals in various disciplines.
2. ***Research utilization and technology commercialization programs.*** CHED shall continue to support initiatives of HEIs in utilizing the technologies generated by their researchers for their own Income Generating Projects or in transferring these to end-users for commercialization and productivity enhancement.

PRIORITY RESEARCH AREAS /THEMES

Principles guiding prioritization

The NHERA integrates the concerns of higher education sector with the overall development goals and objectives of the country, the National Innovation System and the higher education international community.

In formulating the NHERA, the Commission was guided by the following principles:

1. **Multidisciplinary.** Researches that involve the expertise of researchers in several disciplines are preferred over researches needing the expertise in a single discipline. This principle shall, however, not apply to the category of “breakthrough researches” such as revolutionary scientific or mathematical discoveries.
2. **Policy orientation.** Policy-oriented researches are preferred over researches that have little or no policy implication across the various higher education disciplines.
3. **Participation and networking.** The research should involve the participation of as many stakeholders as possible and should be organized preferably as network, instead of stand alone, undertaking of an HEI or individual researcher.
4. **Balanced attention to basic and applied research.** Both basic or pure research and applied research shall be given due importance.
5. **Dovetailing and complementation with other R & D initiatives.** In order to ensure complementation and avoid duplication of research initiatives, CHED shall coordinate closely with the DOST and other funding institutions in the evaluation, monitoring and programming of research in HEIs.

Research priorities

Guided by the above principles there are several categories of research undertakings that require and shall be given consideration:

1. Basic research to generate new knowledge and advance the frontiers in the various disciplines;

2. Research in aid of policy/plan formulation and implementation particularly in education
3. Research aimed at producing/adapting education technologies and developing education programs in cutting edge fields such as nanotechnology, biotechnology, ICT, materials science, etc.
4. R & D in aid of national/regional development

Priority discipline clusters

Consistent with the *Medium term Plan for the Development of Higher Education 2005-2010* and the *New Higher Education Highway Toward a Knowledge-based Economy*, research shall be encouraged in the following clusters of disciplines:

Science and Mathematics
Education and Teacher Training
Health and health profession
Information and Communication Technology
Engineering, Maritime and Architecture
Agriculture
Environmental Science
Humanities
Social Sciences
Other disciplines as identified by the Commission

The Technical Working Group on Research and the various Technical Panels of CHED shall periodically review the state of the art in their respective disciplines, identify knowledge gaps and recommend priority areas for research in the disciplines. The recommended priority research areas shall be circulated periodically through CHED Memorandum Orders.

Priority Research Areas in Education and Education Management

1. ***Program/curricular studies on higher education*** – including assessment of present programs/curricula for purposes of determining how these could be improved/reengineered as well as international benchmarking of best practices towards the development of new programs/curricula in leading edge disciplines
2. ***Policy oriented studies*** – research on the various dimensions of policy formulation, implementation, monitoring and evaluation focusing on but not limited to the following:
 - a. financing of higher education; cost sharing in higher education
 - b. economics of higher education,
 - c. governance and management of higher education,
 - d. accreditation and other quality assurance mechanisms,
 - e. rationalization of higher education,
 - f. internationalization of higher education
 - g. access and equity measures
 - h. student financing models
3. ***Research on quality and standards in the context of:***
 - a. international rankings and global benchmarking
 - b. quality assurance systems
 - c. equivalency
 - d. redefining classifications of HEIs
4. Technology and education
5. Model building studies
6. Institutional development studies
7. Manpower demand and supply studies
8. Graduate tracer studies
9. Other research topics considered by the Commission in response to emerging needs of the country

Higher education research in support of R & D initiatives of other agencies/sectors

The higher education sector is part of the National Innovation System that generates and mobilizes knowledge for enhancing productivity and addressing the goals of national development. As such, CHED and the HEIs are expected not only to produce research and development manpower but also to actively participate in the implementation of the R & D plans for Science and Technology, Health, Energy, Agriculture and other sectors that are identified as priority in the National Development Plan.

Hence NHERA-2 supports and complements the following:

1. ***National Science and Technology Plan (NSTP) 2002-2020.***

The S & T area thrusts of the NSTP are:

- a. Agriculture, Forestry and Natural Resources
- b. Health and Medical Sciences
- c. Biotechnology
- d. Information and Communication Technology
- e. Microelectronics
- f. Earth and Marine Sciences
- g. Fisheries and Aquaculture
- h. Environment
- i. Natural Disaster Mitigation
- j. Energy
- k. Materials Science and Engineering
- l. Manufacturing and process engineering

2. ***National Integrated Basic Research Agenda.*** NIBRA specifies the areas of priority that will be the focus of basic research up to 2010. The priorities identified in NIBRA are consistent with the NSTP; in addition, these include areas/ topics devoted to policy, government, education and international affairs, social sciences and the humanities. The main benefits of basic research results are “the advancement of frontiers in the discipline itself”.

3. ***National Unified Health Research Agenda 2008-2010.*** NUHRA specifies the areas and topics that need to be addressed in

line with the global and national initiatives influencing the health sector. Priority research topics are classified into major areas, namely, health financing, governance, health regulations, health service delivery, health technology development, health research ethics, and health information system.

4. ***Recommendations of the Congressional Commission on Science and Technology and Engineering.*** R & D priorities identified by COMSTE are in six key areas, namely, agriculture and food, electronics and semi conductors, energy and environment, health science, IT and IT-related industries, and science, mathematics and engineering education.

Priority themes for multidisciplinary/multisectoral research

In light of the realities that the country is now experiencing and will face in the future, research on the following themes shall be encouraged:

1. ***Food safety and security.*** Considering the country's prone-ness to natural hazards and disasters and with its booming population, it is important for the people to be assured of affordable and safe food on their table.
2. ***Enhancing indigenous renewable energy source in the domestic energy mix.*** Increasing the percentage of indigenous renewable energy source into the national energy mix will not only result in dollar saving, and protection of the environment but more importantly, ensuring energy security. The search, development and exploitation of renewable energy sources will involve a multi-disciplinary approach.
3. ***Development of vaccines and diagnostic kits using indigenous materials.*** Emerging and reemerging diseases have always threatened the global and regional scenes. The country has to be prepared for these by having the appropriate medication, vaccines and diagnostic kits that are readily available and affordable.

4. **Disaster risk management.** The shift from preparedness to prevention and mitigation mode in our disaster risk management framework would entail a lot of research work not only in policy formulation, community development, and public awareness but also in hard science (e.g. forecasting, structural engineering aspects).
5. **Pollution control.** Environmental issues that affect the land, air and water should be studied. A developing country like the Philippines must ensure that progress is not compromised by environmental degradation.
6. **Climate change specifically on the issue of global warming.** The four pillars of the Bali Action Plan dealing with a) mitigation, b) adaptation, c) technology transfer, and d) financial resources are rich sources of multi disciplinary research work. Considering that climate change issues deal with future scenarios, a wholistic approach is necessary.
7. **Future ASEAN.** The ASEAN Charter has come into force and by AY 2015, we will be a single community. The ASEAN will also have its own legal personality. In the process, immediate studies on how to handle this pending reality must be done.
8. **Peace process and conflict resolution.** This is a rich source of research work, the results of which can be applied to governance, policies and direction setting.

ORGANIZATION AND RESEARCH MANAGEMENT STRUCTURE

PAGE 13 - 15 UNDER REVISION

GUIDELINES FOR AVAILMENT OF CHED GRANTS AND AWARDS

Research grants

In the implementation of the National Higher Education Research Agenda-2 CHED shall provide five types of funding assistance:

1. *Grants-in-Aid (GIA)* – grants for researches that fall within the national or zonal priorities/agenda identified by CHED. Priority is given to research proposals submitted by HEIs. Proposals for GIA are processed by Zonal Research Centers identified by the Commission, in cooperation with the OPPRI - Research Division.
2. *Commissioned research* – grants awarded to institutions/individuals with proven track record in research based on the topics/issues/problems identified by the Commission as important/vital to the pursuit of its mandates. Proposals for commissioned research are processed by the OPPRI-Research Division.
3. *Visiting Research Fellowships* – grants awarded to outstanding research professors in HEIs across various disciplines in recognition of their significant contributions and outputs in the academic and research community. Proposals for Visiting Research Fellowship are processed by the OPPRI-Research Division.
4. *Research Professorial Chairs*. Outstanding research professors in higher education institutions shall be given recognition through grants of Research Professorial Chairs. The title of Research Professor remains with the Professor for as long as he/she remains actively engaged in CHED-funded research. The results of his research will be published in JAS accredited journal. Search and selection shall be done at the OPPRI-RD.
5. *Thesis/Dissertation Grants* – grants awarded to deserving faculty to support and enable them to do their thesis/dissertation and earn their master/ PhD degree from Centers of Development/Centers of Excellence.

The detailed procedures are described in CMO 32, s. 2008; CMO 38, s. 2008; CMO 13, s. 2009; and CMO 10, s. 2009. (see www.ched.gov.ph)

Criteria for evaluating research proposals

The Proposal

- a. The proposal corresponds with one or more of the listed research priorities;
- b. The research proposal is relevant to the problems and needs in the local/national setting in the case of applied research;
- c. The methodology of the study is justified and sound;
 - 1) Well-selected variables
 - 2) Clarity of the objectives/problems
 - 3) Appropriateness of methodologies
 - 4) Comprehensiveness of the review/scanning of literature and empirical studies
- d. The proposal's expected outputs, impacts and derivations are clear and well-defined;
- e. The work plan includes a description of each activity in the study including date of completion; and
- f. The financial plan and budgetary outlay are adequate and present an itemized breakdown of the total project costs and source/s of funds.

The Proponent

The proponent has the track record/competence to carry out the proposed research:

- a) Academic qualification
- b) Research experience in his field of specialization



Republic of the Philippines
OFFICE OF THE PRESIDENT
COMMISSION ON HIGHER EDUCATION

CHED MEMORANDUM ORDER

No. 41

Series of 2010

SUBJECT : CHED PRIORITY RESEARCH AREAS IN THE SOCIAL SCIENCES

Pursuant to CEB Resolution No. 239, series of 2010, the list of priority research areas for social sciences is hereby issued as accompanying document to the National Higher Education Research Agenda-2 (NHERA-2), which was approved by the Commission en banc through CEB Resolution No. 324, series of 2009.

1.0. Background

NHERA- 2 restates the general policies that should guide higher education research; presents strategies and initiatives to develop research capacity and to enhance research productivity in higher education institutions; and identifies priority areas for research and research-related programs for the years 2009-2018.

2.0. Goals and Objectives

NHERA-2 shall support the higher education sector's goals to develop high level manpower and globally competitive professionals, and to generate knowledge and technology for enhancing productivity and quality of life in order to reduce poverty and ensure sustainable development in the country. The following objectives shall be pursued under NHERA-2:

- 2.1 Improve research capability of HEIs, particularly the Philippine universities whose main business is to generate knowledge towards international competitiveness;
- 2.2 Enhance research productivity of HEIs in distinctive areas of competence;
- 2.3 Generate knowledge/technologies needed for:
 - 2.3.1 international, national and regional higher education development,
 - 2.3.2 policy/plan formulation, particularly for higher education
 - 2.3.3 developing innovative programs in cutting-edge higher education fields,
 - 2.3.4 advancing the frontiers of knowledge in the disciplines
- 2.4 Promote and facilitate dissemination and utilization of research outputs.

The recommended priority research areas in the various disciplines shall be circulated periodically through CHED Memorandum Orders as provided in NHERA-2.

3.0 Priority Research Areas in the Social Sciences

The articulation of research priorities for social sciences defines four problems or thematic areas for research and more specific topics or lines of inquiry within each problem area: families and communities transition, education, disaster, and ICT and social change.

MAJOR ISSUES	PRIORITY RESEARCH AREAS	SUGGESTED APPROACH
Families and communities transition	Drivers, processes and consequences of: community transitions labor migration changing family structure Evolution of social institutions in response to changes in family and community structures	descriptive research; cross-section trend research; panel/longitudinal research;
Education	Alignment of human capital development goals in school, in communities, and Philippine society; social processes and factors that shape educational policies and processes at national, community, school and individual levels; efficacy of educational processes (instructional, management, policy, etc.) in the development of quality human capital; social processes and dimensions of educational reforms and educational institutions	descriptive research (including GIS mapping); cross-section trend research; panel/longitudinal research; historical research; action research; evaluation of programs and policies; theory and model building
Disaster	Social antecedents of disaster; social determinants of vulnerability to disaster; social response (community and national levels) to disaster mitigation and adaptation; social processes in relief and developmental responses to disaster; short-term and long-term consequences on well-being of individual and communities in disaster-stricken and/or vulnerable areas	descriptive research (including GIS mapping) cross-section trend research; panel/ longitudinal research; historical analysis
ICT and social change	Description and analysis of changes in social institutions such as education, governance, church/religious organizations, financial and agricultural institution, etc.; social dimensions of adoption and utilization of ICT in individuals, organizations, and communities; social analysis of virtual communities and interactions	descriptive research; cross-section trend research; panel/longitudinal research; historical analysis; action research; theory and model building

The identified priority research areas shall be considered by CHED in providing funding for the conduct of research and related activities, and for other research rewards and incentives.

4.0 Effectivity

This Order shall take effect immediately.

Quezon City, Philippines Dec. 6 2010


PATRICIA B. LICUANAN, Ph.D.
Chairperson



Republic of the Philippines
OFFICE OF THE PRESIDENT
COMMISSION ON HIGHER EDUCATION

CHED MEMORANDUM ORDER

No. 42

Series of 2010

SUBJECT : CHED PRIORITY RESEARCH AREAS IN THE NATURAL SCIENCES

Pursuant to CEB Resolution No. 240, series of 2010, this list of priority research areas for natural sciences is hereby issued as accompanying document to the National Higher Education Research Agenda-2 (NHERA-2), which was approved by the Commission en banc through CEB Resolution No. 324, series of 2009.

1.0. Background

NHERA-2 restates the general policies that should guide higher education research; presents strategies and initiatives to develop research capacity and to enhance research productivity in higher education institutions; and identifies priority areas for research and research-related programs for the years 2009-2018.

2.0. Goals and Objectives

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- 2.3 Generate knowledge/technologies needed for:
 - 2.3.1 international, national and regional higher education development,
 - 2.3.2 policy/plan formulation, particularly for higher education
 - 2.3.3 developing innovative programs in cutting-edge higher education fields,
 - 2.3.4 advancing the frontiers of knowledge in the disciplines
- 2.4 Promote and facilitate dissemination and utilization of research outputs.

The recommended priority research areas in the various disciplines shall be circulated periodically through CHED Memorandum Orders as provided in NHERA-2.

3.0 Priority Research Areas in the Natural Sciences

The articulation of research priorities for natural sciences defines six problems or thematic areas for research and more specific topics or lines of inquiry within each problem area: climate change, pollution, conservation, energy, health, and food.

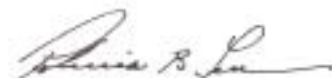
MAJOR ISSUES	PRIORITY RESEARCH AREAS	SUGGESTED APPROACH
Climate Change	Physical oceanography; marine coastal geology; engineering geology; volcanology; hydrology; seismology; vulnerability of biodiversity	Scenario building
Pollution	Persistent organic pollutants, heavy metals, mariculture-derived pollution; vulnerability of biodiversity (priority research sites: Mindanao Sea, Bohol Sea, Southern Palawan Sea, Northern Luzon Sea, Sulawesi Sea, Sulu Sea, Straits); instrumentation (detection, analysis, robotics, atmospheric/environmental); materials science (electronics applications, catalysts, environmental remediation); nanotechnology	Multi-disciplinary approach to measurement and mitigation Programmatic approach on carrying capacity of ecosystems
Conservation	Systems biology (modeling, bioinformatics, ecology, population, community, ecosystems); genetics (molecular, population, evolution); biodiversity (priority research sites: Mindanao Sea, Bohol Sea, Southern Palawan Sea, Northern Luzon Sea, Sulawesi Sea, Sulu Sea, Straits); 3-domain scheme (morphoanatomy, physiology, and behavior); instrumentation (atmospheric/environmental)	Baseline study Ecosystem-based studies
Energy	Intelligent systems; molecular simulation/modeling; materials science (alternative energy, electronics applications, catalysts, environmental remediation); natural products (biofuels); materials research (energy, fuel cells, nanomaterials, ICT/microelectronics, functional materials); greener technologies for minerals, coal, geothermal, petroleum;	Development of clean technology Exploration of alternative energy sources
Health	Bioassays; diagnostics; drug/cure discovery; biosensors; natural products (pharmaceuticals, cosmeceuticals, nutraceuticals, pesticides); instrumentation (detection, analysis, robotics, medical physics)	Rapid assessment Development of innovative cure
Food	Natural products; biochemistry; biotechnology; molecular biology	Exploration of new resources and more efficient production

The identified priority research areas shall be considered by CHED in providing funding for the conduct of research and related activities, and for other research rewards and incentives.

4.0 Effectivity

This Order shall take effect immediately.

Quezon City, Philippines Dec. 6 2010



PATRICIA B. LICUANAN, Ph.D.
Chairperson