**AREA V.**

**RESEARCH**

**PARAMETER A—PRIORITIES and RELEVANCE**

**1. SYSTEM –INPUTS AND PROCESSES**

* **Present the institution’s approved Research Agenda**

*(Lifted from PUP Research and Development Manual)*

**PUP RESEARCH AGENDA**

As a state university with the largest number of enrollees belonging to the marginalized sector of society, the research program of the Polytechnic University of the Philippines (PUP) is directed at social capital and innovation towards inclusive growth for national development. Research in the university, being the primary source of new knowledge and a laboratory of highly competent and skilled human capital, is an incubator of innovations and technologies with the end goal of economic growth of the country and the community.

The focus of the research program of the University is multi-, inter-and trans-disciplinary and collaborative in nature, with emphasis on sustainable development, answering especially questions “what kind of research is done?", "what are the objectives?", and "what impact will the research have?" The University's research program is complimentary to research and development (R&D), technology transfer, innovation and commercialization activities.

**Research Policy Statement**

Research is one of the major functions of higher education. Thus, the University encourages its faculty members, non-teaching personnel and students to be actively engaged in research undertakings to ensure the continued growth and development of PUP as a higher education institution.

**Research Principles**

Research undertakings in the University shall be guided by the following general principles set by the Higher Education Research Agenda-2 (NHERA-2) of the Commission on Higher Education (CHED):

1. Research is the ultimate expression of an individual's innovative and creative powers. PUP shall ensure that the academic environment nurtures

and supports 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. PUP policies shall enhance the institution's and the individual's capacity to conduct independent, collaborative and

productive research.

3. Research is one of the functions of higher education sector. PUP is expected to lead the conduct of discipline-based, policy-based, technology-

directed and innovative/creative researches that are locally responsive and globally competitive

**'University Research' Defined**

Research is defined as a "structured inquiry that utilizes acceptable scientific methodology to solve problems and creates knowledge that is generally applicable" (Grinnell, 1993).

University research must advance the University's Research Agenda of bridging the gaps in the programmed body of knowledge that the University is building up. Researchers can be initiated and conducted by the following:

* an individual faculty member;
* an individual non-teaching personnel;
* a group of faculty members belonging to one department/college/branch;
* a group of non-teaching personnel belonging to the same office;
* a group of faculty members and/or non-teaching personnel from different departments/colleges/branches/campuses/offices;
* an academic department;
* a college/branch/campus;
* a student or a group of students belonging to one department, college or branch/campus.

Only those researches that fit the definition of university research and approved by the University Research Evaluation Committee (UREC) can avail of material, technical and/or financial support from the University.

**The University Research Vision, Mission and Objectives**

**Vision**

The University envisions itself as a premier center of research in social capital and innovation towards inclusive growth for national development.

**Mission**

Research and development in PUP shall contribute to the transformation of the University as an epistemic community and a research-intensive polytechnic university, and in advancing knowledge across multidisciplinary areas to address the immediate and long-range needs of society. The R & D in the University shall endeavor to produce research and innovation that promote educational, technological, economic, political, ecological, social, and cultural understanding toward the alleviation of the plight of the poor, the development of the citizenry, and the enhancement of nation-building and global competitiveness.

In particular, the research sector shall play a significant role in the realization of the University's 'envisioned society' of (1) sustainable human development; (2) democratic and good governance; (3) respect for cultural diversity and strengthened national identity: (4) technology human touch; and (5) ecological harmony.

**Objectives**

To fulfill this mission, the Office of the Vice President for Research, Extension, and Planning Development (OVPREPD) shall endeavour to achieve the following objectives:

1. To contribute to the country's national development through a focused-university research program;

2. To promote synergy and a sound research capability program through collaboration of the research and academic sectors of the University;

3. To pursue excellence in production and publication of research and creative works among faculty and students;

4. To develop strong research linkages and partnerships with other national and international institutions and organizations;

5. To pursue excellence in innovation, technology transfer and commercialization research outputs with the end goal of economic, environmental and social growth.

**The University Research Agenda**

The University adopts a clear, practical, and realizable University Research meant to (1) be aligned with the strategic plan of the University; (2) unify the direction and framework of the research activities of the University; (3) align the research efforts of the University with the thrust and priorities of national government agencies e.g. Department of Science and Technology (DOST), National Economic and Development Authority (NEDA), Commission on Higher(CHED), among others; and (4) generate researches, scientific innovations, speculative and the paradigms which are expected to propel economic, scientific, social, cultural and technological development.

The University Research Agenda is categorized into five general themes, to wit: (1) poverty reduction, peace and security; (2) accelerating infrastructure development through science and technology; (3) competitive industry and entrepreneurship; (4) social and cultural development and (5) conservation, protection and rehabilitation of the environment towards sustainable development.

**Agenda 1: Poverty Reduction, Peace and Security**

This research theme addresses three important national and global issues that mankind is squarely faced: poverty, peace and security. The University is in the belief that these issues are interrelated-solving one means solving others.

1. **Poverty Reduction Studies**

The University works with the paradigm that the poverty issue is multi-dimensional and is driven by multifarious causes. Poverty studies therefore should cover the many facets of the causes and effects of poverty as well as the ways of addressing them. They should also be linked with peace and security concerns of localities, regions and countries. The studies should reveal the relationships of poverty to security, human rights, governance, lack of education, and limited access to social services for according to Kofi Annan, "development cannot be enjoyed without security and security cannot be enjoyed without development."

Roles and models on local resource and local actors' mobilization, increasing productivity and creativity, community-driven development, and development partnerships between public and private sector should likewise be included among the focus of poverty studies.

The following research topics are herein identified for poverty reduction according to different dimensions:

**(1) Economic Dimension**

a. Agrarian reform and industrialization

b. Agri-business

c. Corporate social responsibility

d. Employment and industrial relations

e. Growth and equity

f. Local/community and distributive economics

g. Micro-finance/micro lending strategies

h. National and local economic policies

i. SMEs, cooperatives and social enterprise

j. Supply chain management, and

k. Other related topics

**(2) Educational Dimension**

1. Academe-industry linkages
2. Alternative learning system
3. Curriculum Development
4. Distance education/learning
5. Educational policies and legislation
6. Educational technology and innovation
7. Graduate tracer study
8. Home-School-Community collaboration
9. Institutional Development
10. Outcome-based education
11. Professional development and faculty support
12. Quality assurance
13. Student support services
14. Teacher and student achievements
15. Transformative education
16. Transnational education (ASEAN integration), and
17. Other related topics

**(3) Social, Political and Cultural Dimension**

1. Good governance
2. Human development and social protection
3. Informal settlers
4. Knowledge and belief systems
5. Local government studies
6. Public personnel management and development
7. Public-private partnership
8. Quality of life
9. Social welfare, and
10. Other related topics

**(4) Public Health Dimension**

1. Food sufficiency
2. Food productivity
3. Nutrition and dietatics
4. Food sciences, and
5. Other related topics
6. **Peace and Security Studies**

Peace and security studies and researches are expected (1) to understand the causes of armed conflicts, religious disagreements, cultural clashes, war, terrorism, genocide, human violations and others; (2) to develop ways and devices to prevent and resolve identified peace and security problems; and ultimately (3) to build peaceful and just communities, systems, and societies.

Obviously, these types of studies require interdisciplinary approaches and expertise. Henceforth, researches with the following topics could meet the above expectations:

**(1) Understand the causes of armed conflicts, religious disagreements, cultural clashes, war, terrorism, genocide, human rights violations and others with focus or emphasis on:**

a. Democratization

b. Ethnographic and ethnicity studies

c. Human growth and development

d. International relations and trans-border issues

e. Internationalization

f. Knowledge and belief systems

g. Macroeconomics and globalization issues

h. Migration

i. National and human security

j. Policy studies

k. Political dynamics

I. Religion and philosophy

m. Social issues

n. Social movements

o. World politics, and

p. Other related topics

**(2) Develop ways to prevent and address identified peace and security problems, through conduct of studies on:**

a. Behavioral and psychosocial researches

b. Cross-cultural communication

c. Ethno-linguistics

d. Organizational and development communication

e. Peace and conflict resolution

f. Psycho-trauma and crisis intervention

g. Translation studies, and

h. Other related topics

**(3) Build peaceful and just communities, systems and societies, exploring:**

a. Access, equity and ethics

b. Community empowerment

c. Differently-abled (PWDs)

d. Gender and development studies

e. Globalization of education and cross-cultural aspects

f. Institutional development

g. Lesbian, Gay and Bisexual, Transsexual and Queer (LGBTQ) issues

h. Marriage and family

i. Senior citizens' issues

j. Women and children, and

k. Other related topics

**Agenda 2: Accelerating Infrastructure Development through Science and Technology**

Consistent with the National Government's thrust, the University is determined to effect significant economic growth, human development and social protection through acceleration of infrastructure development.

Undoubtedly, infrastructure development is one of the major priorities of the national government as it is clearly and concretely outlined in the recent National Economic and Development Authority agenda. The University, in support to the government's efforts, provides the country with research-based studies and scientific and engineering innovations that will enable both the government and private sectors to hasten infrastructure development which can be both hard and soft infrastructures.

The "hard" infrastructure refers to the large physical networks necessary for the functioning of a modern industrial nation; these are meant to support the drivers of economic growth such as tourism, agriculture and industry. On the other hand, "soft" infrastructure refers to all the institutions or systems which are required to maintain the economic, cultural and social standards of a country; these are meant to provide the necessary services for human development and social protection such as education, health, among others.

The University identified the following areas and topics to concentrate on:

**A. Hard Infrastructures**

a. Energy-related infrastructure and facilities (e.g. power sources, upgrade of existing power plants, etc.)

b. Flood control and management

c. Irrigation systems

d. Mechatronics

e. Resettlement frameworks

f. Structural engineering

g. Transportation technology

h. Urban and rural housing

i. Urban gardening

j. Water supply and treatment facilities, and

k. Other related topics

**B. Soft Infrastructures**

a. Bioinformatics

b. Computational and theoretical science

c. Data engineering and ubiquitous computing

d. E-governance

e. Instrumentation research

f. Internet and Web applications development

g. Knowledge management

h. Management information systems/reporting systems

i. Material science research

j. Mathematical and statistical modelling,

1. Mobile computing systems,
2. Natural products,
3. Network security and issues,
4. Pure and applied mathematics research,
5. Software development and applications, and
6. Other related topics.

**Agenda 3: Competitive Industry and Entrepreneurship**

The university recognizes the country’s need to strengthen the competitiveness of its industries particularly those which are driving the nation forward in terms of economic growth such as tourism, agriculture, skilled manpower in ICT and language proficiency, retail, exports, investments, banking and entrepreneurship.

Furthermore, PUP is one with the National Government in its objective of assuring rapid and sustained growth for the country. In view of this, the University, with its various academic and research arms, identifies important research topics and areas which can be explored (1) to reveal important trends, issues and challenges confronting these industries and (2) to discover devices and ways to address these challenges. The following research topics are hereunder identified:

1. Business processing and outsourcing
2. Cooperative Management
3. E-commerce
4. Human resource management practices and issues
5. Incubation and commercialization
6. Industry needs analysis
7. Investments and banking systems and operations
8. Livelihood and business development
9. Management and organization
10. Market for agriculture industry
11. Micro and macroeconomics
12. National and local economic policy research (NEDA, LGU projects, DTI)
13. Product development and innovation
14. Quality management
15. Resource management
16. Small and medium enterprises (SMEs)
17. Work values, and
18. Other related topics

**Agenda 4: Social and Cultural Development**

Culture and society are linked to each other. Generally, culture is an important element of social development. The University, with its strong academic/research centers and institutes pertaining to cultural and social studies, is bent to support the National Government in the (1) creation of intellectual potential; (2) building of human capital; (3) popularization of culture, arts and heritage; (4) forging social integration; (5) promotion of national identity through local and national historiography; (6) prevention of social pathologies; (7) initiation and establishment of cooperation; (8) advancement and promotion of national solidarity and patrimony; and (9) reduction of disproportions of personal development of citizens as a form of social advancement.

The following research topics are identified in order to direct the University research activities along the line of cultural and social development:

1. Communication and society
2. Filipino worldview
3. Filipino culture
4. Heritage studies/ intangible cultural heritage/ heritage preservation
5. Historiography
6. Human growth and development studies
7. Information campaign and evaluation, advertising/public relations principles and case studies
8. Literature, performing arts, visual arts, folk arts
9. Media laws and ethics
10. Media literacy
11. Organizational behaviour, multiple intelligences, giftedness and learning disabilities
12. Philosophical studies
13. Popular culture
14. Psychology and society
15. Sociological studies, and
16. Other related topics

**Agenda 5: Environmental Conservation, Protection and Rehabilitation towards Sustainable Development**

Conservation, protection and rehabilitation of the environment is a significant factor in the maintenance of community’s sustainability. It includes the sustainable use and management of the natural resources such as water, natural energy, air, wildlife and minerals. The University recognizes this as a very important element of national development.

The following research areas and topics have been identified to generate knowledge to supplement the existing body of works regarding the management, care, use and exploitation of the natural resources:

1. Biodiversity
2. Climate change mitigation and adaptation
3. Disaster management, preparedness and monitoring
4. Energy conservation
5. Environmental conservation, preservation, protection and stewardship
6. Global warming
7. Urban ecology, and
8. Other related topics