

# STATUS OF IMPLEMENTATION OF 2024 PNRI PROJECTS

As of 15 March 2024

PROJECT TITLE	STATUS	BENEFICIARIES
1. Innovating Nuclear Medicine Research and Services: Development of Emerging PET Radiopharmaceuticals for Early Cancer Staging and Assessment of Biologic Functions in Cancer Cells	Ongoing until 2030	a. Hospitals with nuclear medicine department/section b. Nuclear medicine practitioners c. Patients d. Commercial distributors for nuclear medicine use
2. PROMT: Philippines Remediation of Mine Tailings (Large Grant)	To be completed in 2024	a. Local communities in mining areas b. Mining companies c. LGU and national government d. Academe
3. HYDROGEN SEEP: Sustainable rock-derived Energy Exploration in the Philippines	Ongoing until 2026	
4. Development of Gamma Computer Tomography for Industrial Applications	To be completed in 2024	a. Energy Development Corporation (EDC)- industry partner b. PNRI c. NIP-UPD (Academe) d. NDT sector
5. Improvement of Mass-rearing Method of Aedes Aegypti	Ongoing until 2026	a. Researchers b. Health workers
6. Irradiation, Sterilization and Quality Control of Aedes Aegypti in the Philippines	Ongoing until 2025	a. Researchers b. Health workers
7. Development of Sterile Insect Technique for the Control of Dengue Mosquito, Aedes Aegypti	Ongoing until 2026	a. Researchers b. Health workers c. Communities who live in urban and semi-urban areas
8. Tracing the Geographic Origin of Philippine Carabao Mango Through Chemolotopic Fingerprinting	To be completed in 2024	a. LGUs b. Mango-related associations c. Government agencies (DA, DTI, DOST, BAFS, IPOPHIL)
9. Improvement of Adlay (Coix lacryma-jobi-L.) Through Gamma Irradiation (Phase II)	To be completed in 2024	a. Agriculture Sector
10. Phase II Mutation Breeding of Priority Agricultural Crops: Component 1 - Ornamentals	To be completed in 2024	a. Agriculture Sector
11. SMIDERM: Smart Multifunctional and Indigenous Dressings Sterilized Using the Electron Beam as Novel Wound Repair Matrices	To be completed in 2024	a. Potential industry taker b. General public c. Academe

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12. Electron Beam Processing to Improve Safety and Quality of Insect-Based Food Products and to Promote Earth-Friendly and Nutritious Non-Meat Substitute (CRP IAEA Contract no. 24363)	Ongoing until 2026	a. Potential industry taker b. General public c. Academe
13. Sustainable Food Systems through Radiation Technology: Food Safety and Functionalization R&D	Ongoing until 2026	a. Potential industry taker b. General public c. Academe
14. Simple Biomedical Research Models for Radiation Injury, Protection and Therapy	To be completed in 2024	a. Cancer researchers b. Academe
15. The Use of Dicentric and Micronucleus Assays in Determining Radiosensitivity of Breast Cancer Patients Undergoing Adjuvant Fractionated and Hypo-fractionated Radiation Therapy	To be completed in 2024	a. Breast cancer patients
16. Modification of Bacterial Cellulose Through Radiation Processing for Medical Applications	Ongoing until 2025	a. Potential industry taker b. Public c. Academe
17. Bioinformatics knowledge systems for radiation biology and processing	To be completed in 2024	a. Medical sector b. Food sector
18. Health Physics Research Section: Environmental Radioactivity Measurement, Research, and Monitoring in the Philippines	Ongoing until 2028	a. Filipino public and the environment
19. Development of Animal Model for Use in Radiation Research and Establishment of the Radiation Research Center: Core Facility for Radiobiological Research - Phase 2	Ongoing until 2028	a. Cancer patients b. Patients undergoing radiotherapy c. Radiation and nuclear workers d. Radiation researchers e. Radiation oncologists and other medical practitioners f. Nuclear researchers and research students
20. Establishment of the Low-Dose Uniform Neutron Irradiation System (Project LUNIS)	Ongoing until 2025	a. PNRI b. Academe c. Medical physics industry d. Medical accelerator facilities
21. Small Modular Reactor Technology Assessment with DEMOnstration Plants (SMART Demo)	To be completed in 2024	a. PNRI b. DOE c. NEP-IAC d. Academe e. Decision-makers

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22. Application of Ionometallurgy for Recovery and Extraction of copper from Copper Ore and Artisanal Copper-Gold Tailings (i-REACT)	To be completed in 2024	<ul style="list-style-type: none"> <li>a. Miners and residents of mining areas</li> <li>b. Local Government Unit</li> <li>c. Mines and Geosciences Bureau</li> <li>d. Academe</li> </ul>
23. Evaluation of using a low-intensity neutron beam for neutron radiography-Phase 3	To be completed in 2024	<ul style="list-style-type: none"> <li>a. PNRI</li> <li>b. Academe</li> <li>c. Aerospace</li> <li>d. Nuclear reactor facilities</li> <li>e. National defense</li> <li>f. Electronics industry</li> <li>g. Medical</li> <li>h. Biological research</li> <li>i. Cultural heritage preservation</li> </ul>
24. Fabrication of construction materials from recycled plastics by post-radiation reactive extrusion	Ongoing until 2025	<ul style="list-style-type: none"> <li>a. Recycling facilities</li> <li>b. Plastic manufacturing companies</li> <li>c. General public</li> </ul>
25. Enhancing the Beneficial Effects of Radiation Processing in Industry, Energy, Environment, and Cultural Heritage	To be completed in 2024	<ul style="list-style-type: none"> <li>a. Biodiesel manufacturing companies</li> <li>b. Analytical laboratories using SPR</li> <li>c. Agencies involved in cultural heritage preservation</li> <li>d. Nuclear energy sector</li> <li>e. General public</li> </ul>
26. Development of radiation-processed products of carboxymethyl hyaluronic acid (CMHA) for cosmetic and biomedical applications	To be completed in 2024	<ul style="list-style-type: none"> <li>a. Cosmetic and pharmaceutical industries</li> <li>b. General public</li> </ul>
27. Enhancing the Use of Analytical, Nuclear, and Irradiation Techniques for natural Products and Toxin Research: Ionizing Radiation-Assisted Extraction Technology for the Production of High-Value D-Mannose from Spent Coconut Kernel	To be completed in 2024	<ul style="list-style-type: none"> <li>a. BFAR-DA as HAB regulatory agency</li> <li>b. Health institutions</li> <li>c. Coconut industry</li> <li>d. General public</li> </ul>
28. Supporting Cyanotoxin Risk Assessment through Nuclear and Isotopic Techniques for Food Safety and Water Quality Management of Freshwater Lake Systems	To be completed in 2024	<ul style="list-style-type: none"> <li>a. Regulatory and resource management agencies</li> <li>b. Fisheries and aquaculture sector</li> <li>c. Food and export industry</li> </ul>
29. Assessment of heavy metal concentration in Manila Bay sediments	Ongoing until 2025	<ul style="list-style-type: none"> <li>a. Environmental managers/planners</li> <li>b. General public</li> </ul>

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30. Direct Comparison of Gamma and Electron Beam Irradiation Effects on Raw Polymer Materials Used and Final Products of Single-Use Catheter Devices	Ongoing until 2026	a. Biomedical industries b. Radiation processing industries c. RDIs d. Academe
31. Micro-scale Continuous Extraction System for the Recovery of Uranium from Philippine Wet Phosphoric Acid	Ongoing until 2025	a. Philippine government b. Fertilizer/mining/mineral industry c. Public d. Academe
32. Extraction of Radionuclides, Rare Earths, and Other Valuable Industrial Elements from Philippine Phosphogypsum Tailings: Phase II	To be completed in 2024	a. Philippine government b. Fertilizer/mining/mineral industry c. Public d. Academe
33. Unraveling the History, Origin, Transport, and Distribution of Elevated Levels of Radioactive Iodine-129 in the West Philippine Sea for National Safety and Security	To be completed in 2024	a. Coastal population around the WPS b. DENR-BMB (for Marine Biodiversity) c. Nuclear regulatory agencies and Department of National Defense of countries around the WPS d. Academe and research institutions e. General public
34. Adulteration Detection and Fingerprinting of Philippine Honey using Stable Isotopes (Phase2)	To be completed in 2024	a. Local beekeepers b. FDA c. DA d. Consumers
35. Environmental Isotope Investigation of Groundwater in the Abandoned Mercury Mine in Palawan, Philippines	To be completed in 2024	a. Tourists b. Residents c. Local Government Unit d. Mines and Geosciences Bureau e. Academe
36. REVIVE PH: Responsible Extraction of Various Valuable Elements in the Philippine Laterite Deposits - Phase I	Ongoing until 2025	a. Local communities in mining areas b. Mining companies c. LGU and national government d. Academe
37. Luzon Arsenic Source Tracing and Extent Mapping with Risk Mitigation and Engineering Intervention (LASER)	To be completed in 2024	a. Water districts and LGU b. Government agencies (MGB) c. Academe

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38. Lab scale demonstration of the effectiveness of electron beam irradiation for the treatment/hygenization of wastewater and sludge from domestic wastewater treatment plant	To be completed in 2024	a. Industry (including the water service provider) b. General public
39. Irradiated AquaBlocks Biofirm Carriers	Ongoing until 2027	a. MSMEs in food Industry
40. Capacity Building to Utilize the Philippine Research Reactor -1 (PRR-1) TRIGA Fuel in a Sub-Critical Assembly: Reactor Utilization (Optimization of reactor application and stakeholder engagement activities)	To be completed in 2024	a. PNRI b. Research c. Academic Institutions