

# **PROJECT INFORMATION SHEET**

PIP No :

1608

(To be allocated by MOP)

## **PART A : BASIC PROJECT INFORMATION**

(Must be completed in all cases)

1. PROJECT NAME: **Enhancing Nuclear Technology Capacities for Cultural Heritage and Industrial Applications**
2. PROJECT DATES:
- PROJECT START: **1/1/2024**
- ESTIMATED COMPLETION: **12/31/2025**
3. TOTAL PROJECT COST: **\$156,300**
4. RESPONSIBLE MINISTRY: **Ministry of Industry, Science, Technology & Innovation**
- RESPONSIBLE UNIT: **National Institute of Science, Technology and Innovation**
- អង្គភាពទទួលខុសត្រូវ:
5. PROJECT STATUS: **Completed**

## ***DETAILED PROJECT INFORMATION***

6. TYPE OF PROJECT: **Free-standing technical assistance**
7. SOURCE OF PROJECT FUNDING: **Grant**
8. THE POLICY AREA OF THE PENTAGON STRATEGY PHASE I THAT THIS PROJECT FALLS UNDER:V  
**Pentagon 1: Human Capital Development**
9. THE CONTRIBUTION OF THE PROJECT TO ACHIEVE THE ABOVE POLICY:
- 1- Capacity built in NISTI to operate and maintain the nuclear tech lab**  
**2- Enhanced outreach and stakeholder engagement for research and preservation using nuclear technology**  
**3-Business plan and roadmap to set up a food irradiation facility developed**
10. SUPPORT TO CAMBODIA INDUSTRIAL DEVELOPEMENT POLICY:

Does this Project support to the implementation of the Cambodia Industrial Development Policy? **Yes**

**Investment Promotion (Investment climate and Development of Special Economic Zones (SEZs) and Preparation of Industrial Zones)**

11. SECTOR:
- Manufacturing, Mining and Trade** **Industry and Support Services**

12. PROJECT LOCATION: (Describe the location of the project and its components.)

**Phnom Penh,**

13. PROJECT OBJECTIVE: (Describe the major purpose of the project.)

**To strengthen nuclear technology application for cultural heritage preservation and research, and industrial development.**

14. PROJECT DESCRIPTION: (Provide a description of the project and all its components.)

Cambodia embraces valuable cultural assets, some of which are recognized as World Heritage Sites by the United Nations Educational, Scientific and Cultural Organization (UNESCO). However, this heritage is at risk of being damaged or lost due to the country's tropical climate. Furthermore, cultural heritage studies using nuclear technology are currently led by foreign institutions. Thus, the preceding IAEA TC project KAM1002 focused on capacity building of nuclear techniques in the Ministry of Culture and Fine Arts (MCFA) for cultural heritage preservation and studies. This project aims to further train the counterpart institution and relevant stakeholders, and establish a nuclear technology laboratory to strengthen the technical capacities for cultural heritage preservation and studies. This is in support of the implementation of the National Strategic Development Plan (NSDP) 2019–2023. Moreover, the Ministry of Industry, Science, Technology and Innovation (MISTI) implements Cambodia's Science, Technology and Innovation (STI) Roadmap 2030 in line with the National STI Policy 2020–2030. STI promotion is also embedded in the Rectangular Strategy Phase IV, the NSDP 2017–2023, and the Industrial Development Policy 2015–2025. MISTI plans to establish a national STI park that includes advanced laboratory facilities, serves as a hub for scientific research, innovation, and technology transfer, and provides infrastructure and support services. Nuclear technology can add value to industrial sectors in terms of quality control, material analysis, product development, research/development, and environmental protection. Its application will benefit the food sector by enhancing food safety, shelf life extension, pest control, and soil fertility. Therefore, this project will enhance collaboration between the two ministries in setting up a nuclear technology laboratory. The project will also align with the Country Programme Framework (CPF) for 2017–2023, in particular cultural heritage preservation, and the CPF for 2024–2029 (under development) pertaining to cultural heritage and industrial applications.

15. PROJECT JUSTIFICATION: (Give reasons why this particular project is considered worthwhile.)

The legacy of physical artefacts and intangible attributes of Cambodia should be maintained and restored for the benefit of future generations. The preservation of cultural heritage is a key issue for maintaining national identity and understanding the influences or exchanges among civilizations throughout history. Some of the valuable cultural heritage will be decayed or lost if no proper preservation techniques are applied. The primary cause of this are the weather conditions of Cambodia's tropical climate. Heavy rains with heat and sunshine and wind lead to the degradation of ancient statues, wood relics in the monasteries, and archaeological objects. Furthermore, nuclear technology has been used in research activities, in particular for performing cultural heritage analyses and experimentations. However, the country lacks a core capacity to utilize nuclear techniques in cultural heritage studies and absorb such technologies. The KAM1002 project "Conserving and Preserving Cultural Heritage" has built capacity for using nuclear techniques in cultural heritage studies and preservation, and provided relevant equipment. However, there are still gaps in the analysis, conservation, and preservation of the national cultural heritage, and there is a need for establishing a nuclear technology laboratory which is well equipped with competent human resources and equipment. Moreover, irradiation techniques are needed in Cambodia's industry, food and agriculture sectors to address problems related to food safety, shelf life extension, pest control, and soil fertility. The use of these techniques can eliminate harmful contaminants in food, extend the shelf life of food products, control pest populations, and improve soil fertility, thus contributing to food security and economic development in the country. In the manufacturing sector, there are also challenges related to quality control, short shelf life, contamination, and environmental protection. Irradiation techniques can help to ensure the safety and quality of products, extend their shelf life, sterilize equipment, and reduce the environmental impact of manufacturing processes. Therefore, this project intends to promote collaboration within MCFA and the National Institute of Science, Technology and Innovation (NISTI) to enhance the capacity of using nuclear technologies for cultural heritage preservation and studies, and in the future industries, specifically the food and agriculture sector, as a first step through establishing a nuclear technology laboratory.

16. BENIFITS: (Who will benefit, directly and indirectly, from the project?)

**Directly: NISTI Staff, MCFA staff**

**Indirectly: Food producers, Agricultural Food Producers, and Medical Device Manufacturer**

17. FEASIBILITY STUDY

Is a Feasibility Study for the project required? **Yes**

If YES, has it been carried out? **Is being prepared**

18. SOCIAL & ENVIRONMENT IMPACT: (Briefly describe the effects of the project, if any, on the people and the surrounding enviroment. Will the project assist in alleviating poverty?)

**The project will not have negative effects on the environment by proper use, storage (temporarily) of radiation sources, and management of radioactive waste following technical guidance/regulation and policy/strategy documents on radioactive waste management from IAEA's technical cooperation project, KAM9005.**

19. CLIMATE CHANGE

a. Is any activity or output of the project related to Climate Change? **No**

b. How is the project relevant to Climate Change?

Please select a Climate Change related sector of the project and fill up the contribution of the climate change related expenditure compared to the total project cost.

**20. DISASTER RISK REDUCTION**

Is any activity or output of the project related to Disaster Risk Reduction? **No**

**21. GENDER ANALYSIS:** (How does the project affect the roles of the men and women in the project area? Will women be actively involved in the implementation of the project?)

**The project would benefit men and women. The benefits of the project will be equally distributed to men and women.**

**22. CAPACITY TO IMPLEMENT:** (Does the Ministry have the skills and experience required to implement the project?)

**Ministry has manpower to carry out the management of the project, and has accessibility to request technical assistance.**

**23. STATUS OF PROJECT IMPLEMENTATION:** (Provide a brief update on the progress of the project to date. Discuss any major problems causing delays in project implementation.)

**1-Scoping and Need Assessment for setting up food irradiation facility completed**

**2-National Awareness Seminar on Multipurpose E-Beam/X-Ray facility completed**

**3-Placement process is being delay by IAEA to allow the fellowship and scientific visit**

**4-Technical experts are needed to carry out feasibility study.**

**5-Qualified staffs are needed to participate the trainings.**

**24. PROJECT PRIORITY:** (Please indicates the priority ranking of the project decided by the ministry/agency.)

**3**

**25. DONOR INVOLVEMENT:** (Provide any information on current or potential donor involvement in the project.)

**IAEA involves in providing technical assistance. We need potential development partners on invest in the project after feasibility study is completed.**

**PART B : PROJECT COSTS AND FUNDING SOURCES**  
(In US\$'000)

INVESTMENT COST	2024		2025 Budget	2026 Estimate	2027 Estimate	2028 Estimate	3yr Total 2026-2028	Recurrent Cost Est.
	Budget	Actual						
<b>Operational Expenditure</b>	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Salaries	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Materials + Admin	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Capital Expenditure</b>	63,420.0	0.0	90,380.0	0.0	0.0	0.0	0.0	0.0
Construction	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Consultancy (i.e. TA) + Admin	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Equipment+ Furniture	0.0	0.0	42,500.0	0.0	0.0	0.0	0.0	0.0
Training	63,420.0	0.0	47,880.0	0.0	0.0	0.0	0.0	0.0
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>TOTAL COST</b>	63,420.0	0.0	90,380.0	0.0	0.0	0.0	0.0	0.0
FUNDING SOURCES	2024		2025 Budget	2026 Estimate	2027 Estimate	2028 Estimate	3yr Total 2026-2028	
	Budget	Actual						
<b>Project Revenue</b>	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
<b>Government Funding</b>	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Cash Input	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Other Resources	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
<b>Donor Funding</b>								
<b>TOTAL COMMITTED FUNDING</b>	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
<b>FUNDING REQUIRED</b>	63,420.0	0.0	90,380.0	0.0	0.0	0.0	0.0	
(Total Cost - Funding Available)								

**Seen and Approved by  
Minister**

(Signature)

Date :