## **Project Objective**

Improvement of health care of patients affected by chronic diseases through the implementation of new diagnostic nuclear medicine techniques in cardiology, oncology and other areas of medicine.

## Logical Framework Matrix (LFM) for MAK2010001

	Design Element	Indicator	Means of Verification	Assumptions
Outcome	diagnostic work-up in the management of patient especially affected by cardiovascular diseases and cancer	<ul> <li>Increased number of diagnostic nuclear medicine procedures in the country (Nuclear cardiology and oncology)/year</li> </ul>		<ul> <li>Necessary funds are made available by the University; The University and the hospital continue to support implementation of nuclear medicine</li> </ul>
Output	<ul> <li>1 A new Nuclear Medicine Department established at the University of Stip, Eastern part of the country</li> </ul>		Report from the University	<ul> <li>The University and the hospital continue to support implementation of nuclear medicine practice</li> </ul>
	<ul> <li>2 Nuclear Medicine practice established in accordance with Quality Management Practices</li> </ul>	<ul> <li>Quality system in place</li> </ul>	<ul> <li>Records from the Audit's mission</li> </ul>	<ul> <li>Recommendations from audit missions are implemented</li> </ul>
	<ul> <li>3 Introduction of preparation, production and labelling of homemade radiopharmaceuticals</li> </ul>	<ul> <li>Standard Operation Procedures (SOPs) introduced and applied</li> </ul>	Department	<ul> <li>SOPs effectively applied</li> </ul>
Activity	<ul> <li>1.1 Establishing the infrastructure to run nuclear medicine diagnostic procedures in the University's new Nuclear Medicine Department</li> </ul>	<ul> <li>Equipment in place and operational</li> </ul>	<ul> <li>Official reports from the University</li> </ul>	<ul> <li>Funds are made available by the University</li> </ul>
	<ul> <li>1.2 Training provided to necessary staff</li> </ul>	<ul> <li>Fellowships completed as scheduled; # of staff trained</li> </ul>	<ul> <li>Reports from the Fellows</li> </ul>	<ul> <li>Trainees are retained at the work place</li> </ul>
	<ul> <li>1.3 Procurement of necessary equipment</li> </ul>	<ul> <li>Equipment procured on schedule and operational</li> </ul>	<ul> <li>Official procurement records</li> </ul>	<ul> <li>Procurement requested and processed on schedule; Custom clearance smoothly completed</li> </ul>
	<ul> <li>1 .4 National workshops for different targets/audience (3 days)</li> </ul>	<ul> <li>Workshop held; # of participants</li> </ul>	<ul> <li>Proceedings /report of the workshop</li> </ul>	<ul> <li>Participants are properly released from work to attend work shop</li> </ul>
	<ul> <li>2.1 Preparation of Standard Operating Procedures and Guidelines for imaging practice</li> </ul>	<ul> <li>Documents prepared</li> </ul>	<ul> <li>SOPs and Guidelines</li> </ul>	<ul> <li>SOPs and QM are effectively applied</li> </ul>
	<ul> <li>3 .1 Establishment and validation of protocols for preparation and</li> </ul>	<ul> <li>Protocols for preparation and QA/QC established; # of staff trained</li> </ul>	<ul> <li>Protocols; FE/SV reports</li> </ul>	<ul> <li>SOPs and QM are effectively applied</li> </ul>

	QA/QC of radiopharmaceuticals			
Input	<ul> <li>1.1.1 EM1: to Review the design and planning of the new premises</li> </ul>	<ul> <li>Executive plan prepared</li> </ul>	<ul> <li>Documentation (Executive plan/reports)</li> </ul>	<ul> <li>Resources for the building are provided by the University</li> </ul>
	<ul> <li>1.1.2 Renovation work (Local cost)</li> </ul>	<ul> <li>New infrastructure prepared, dedicated only for Nuclear Medicine activities</li> </ul>	<ul> <li>Documentation from the University</li> </ul>	<ul> <li>Resources for the building are provided by the University</li> </ul>
	<ul> <li>1.2.1 FE1: Training in Nuclear Cardiology – Physician (3 months)</li> </ul>	<ul> <li>Fellowship implemented</li> </ul>	<ul> <li>Fellowship report</li> </ul>	<ul> <li>Fellows accepted by the host institute in time. The trainees retain in the workplace to apply obtained skills.</li> </ul>
	<ul> <li>1 .2 .2 FE2: Training in Nuclear Oncology – Physician (2 months)</li> </ul>	<ul> <li>Fellowship implemented</li> </ul>	<ul> <li>Fellowship report</li> </ul>	<ul> <li>Fellows accepted by the host institute in time. The trainees retain in the workplace to apply obtained skills.</li> </ul>
	<ul> <li>1 .2 .3 FE3: Training in QA/QC and dosimetry - Physicist (1 month)</li> </ul>	<ul> <li>Fellowship implemented</li> </ul>	<ul> <li>Fellowship report</li> </ul>	<ul> <li>Fellows accepted by the host institute in time. The trainees retain in the workplace to apply obtained skills.</li> </ul>
	<ul> <li>1.2.4 FE4: Training technologist -(1 month)</li> </ul>	<ul> <li>Fellowship implemented</li> </ul>	<ul> <li>Fellowship report</li> </ul>	<ul> <li>Fellows accepted by the host institute in time. The trainees retain in the workplace to apply obtained skills.</li> </ul>
	<ul> <li>1.2.5 FE5: Training technologist -(1 month)</li> </ul>	<ul> <li>Fellowship implemented</li> </ul>	<ul> <li>Fellowship report</li> </ul>	<ul> <li>Fellows accepted by the host institute in time. The trainees retain in the workplace to apply obtained skills.</li> </ul>
	<ul> <li>1 .3 .1 Procurement of a Double-Head SPECT Gamma Camera</li> </ul>	<ul> <li>Equipment received and operational</li> </ul>	<ul> <li>Acceptance test report and records of the NM Department</li> </ul>	<ul> <li>Procurement requested and processed on schedule</li> </ul>
	<ul> <li>1 .3 .2 EM2: Acceptance test for gamma camera (1 week)</li> </ul>	<ul> <li>Mission implemented</li> </ul>	<ul> <li>Mission report</li> </ul>	<ul> <li>Mission planned on schedule</li> </ul>
	<ul> <li>1 .3 .3 Procurement of a treadmill (including ECG; defibrillator)</li> </ul>	<ul> <li>Equipment received</li> </ul>	<ul> <li>Report and records</li> </ul>	<ul> <li>Procurement requested and processed on schedule</li> </ul>
	<ul> <li>1 .3 .4 Procurement of laminar flow lead shielded hood for radiopharmaceutical preparations</li> </ul>	<ul> <li>Equipment received</li> </ul>	<ul> <li>Report and records</li> </ul>	<ul> <li>Procurement requested and processed on schedule</li> </ul>
			<ul> <li>Mission report</li> </ul>	

<ul> <li>1.4.1 EM3: Expert missions to train local staff in Nuclear Cardiology and to give lectures at National Workshop</li> </ul>	<ul> <li>Missions implemented</li> </ul>		<ul> <li>The trainees retain in the workplace to apply obtained skills.</li> </ul>
<ul> <li>1 .4 .2 EM4: Expert missions to train local staff in Nuclear Oncology and to give lectures at National Workshop</li> </ul>	<ul> <li>Missions implemented</li> </ul>	<ul> <li>Mission report</li> </ul>	<ul> <li>The trainees retain in the workplace to apply obtained skills.</li> </ul>
<ul> <li>2.1.1 Audit mission to assess Quality Management system</li> </ul>	<ul> <li>Missions implemented</li> </ul>	<ul> <li>Mission report</li> </ul>	<ul> <li>The hospital is willing to apply recommendations</li> </ul>
<ul> <li>3.1.1 FE6: Training on Radiopharmacy, QC – Pharmacist (1 month)</li> </ul>	<ul> <li>Fellowship implemented</li> </ul>	<ul> <li>Fellowship report</li> </ul>	<ul> <li>Fellows accepted by the host institute in time. The trainees retain in the workplace to apply obtained skills.</li> </ul>
<ul> <li>3.1.2 SV1: Preparation of documentation for Radiopharmacy (1 week)</li> </ul>	<ul> <li>SV implemented</li> </ul>	<ul> <li>SV report</li> </ul>	<ul> <li>SV accepted by the host institute in time.</li> </ul>

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