

## Regional Project Concept Template (Category A)

The information contained in this template should be uploaded to the PCMF IT platform by the Chair of the relevant regional cooperative agreement or the NLO of the Member State submitting the concept by **31 May 2012** at the latest. Based on this information the IAEA will assess whether this project concept is in line with the TC quality criteria and requirements. Concepts positively appraised will be further developed into full project documents during the design phase.

<b>Region:</b>	Pakistan		
<b>Regional/Cooperative agreement (if applicable)</b>		<b>Priority no. given by regional/cooperative agreement (for concepts proposed under the auspices of regional cooperative agreements)</b>	
<b>Title</b>	Introduction of cardiac SPECT/CT hybrid imaging in evaluation of coronary artery disease. Strengthening and improvement in the quality of its current practice.		
<b>Field of activity</b>	Hybrid imaging in Cardiology		
<b>Regional project category<sup>1</sup></b>	<input type="checkbox"/> <i>Transnational</i> <input type="checkbox"/> <i>Regional standard setting</i> <input checked="" type="checkbox"/> <i>Capacity building for developing countries</i> <input type="checkbox"/> <i>Joint TC activities with a regional or international entity</i>		
<b>Names and contact details of project counterparts and counterpart institutions (starting with the main counterpart)</b>	<p>Project counterparts:- Dr Sadaf Tufail Butt, Dr Shazia Fatima            Contact details: NORI hospital, Hanna Road, G-8/3, Islamabad, Pakistan  <b>MAIN COUNTERPART INSTITUTIONS:</b></p> <ol style="list-style-type: none"> <li>1. <b>NORI Nuclear Medicine Oncology &amp; Radiotherapy Institute</b></li> <li>2. AEMC Atomic Energy Medical Centre, Karachi</li> <li>3. BINO Bahawalpur Institute for Nuclear Oncology, Bahawalpur</li> <li>4. CENAR Centre for Nuclear Medicine &amp; Radiotherapy</li> <li>5. CENUM Centre for Nuclear Medicines, Lahore</li> <li>6. GINUM Gujranwala Institute of Nuclear Medicine and Radiotherapy</li> <li>7. INMOL Institute of Nuclear Medicine &amp; Oncology, Lahore</li> <li>8. INOR Institute of Nuclear Medicine Oncology &amp; Radiotherapy, Abbottabad</li> <li>9. IRNUM Institute of Radiotherapy &amp; Nuclear Medicine, Peshawar</li> <li>10. KIRAN Karachi Institute of Radiotherapy &amp; Nuclear Medicine, Karachi</li> <li>11. LINAR Larkana Institute of Nuclear Medicine and Radiotherapy, Larkana</li> <li>12. MINAR Multan Institute of Nuclear Medicine and Radiotherapy, Multan</li> <li>13. NIMRA Nuclear Institute of Medicine &amp; Radiotherapy</li> <li>14. SKMCH Shaukat Khanum Memorial Cancer Hospital, Lahore</li> <li>15. AKUH Agha Khan University Hospital, Karachi</li> <li>16. NMC Nuclear Medicine Centre, Rawalpindi</li> </ol>		
<b>Analysis of regional Gap / Problems/needs</b>	<p><i>Cardiovascular diseases are becoming a major health burden in developing countries. World Health Organization (WHO) estimates that in the low-income Countries the number of deaths due to cardiovascular disease (CVD) is on steady rise. Eighty percent of the deaths due to CVD and 86% of the global burden of CVD are in the developing countries including Pakistan.</i></p> <p><i>CTA &amp; myocardial perfusion SPECT are being long been used for risk assessment in coronary artery disease. SPECT/CT CA can improve specificity &amp; positive predictive value (PPV) by providing physiological information on myocardial perfusion and function correlated to detailed anatomical information regarding the coronary vasculature, thus allowing a precise non-invasive identification of culprit coronary lesions and correlating their location with functional significance. The technique</i></p>		

<sup>1</sup> See the document entitled "Policy and Procedures for TC Regional Projects" at: [http://pcmf.iaea.org/DesktopModules/PCMF/docs/2014\\_15\\_Docs/notes/Regional\\_TC\\_Project\\_Policy.pdf](http://pcmf.iaea.org/DesktopModules/PCMF/docs/2014_15_Docs/notes/Regional_TC_Project_Policy.pdf).

52

	<p><i>has excellent growth potential in the next 3-4 years and are likely to enhance patient care</i></p> <p><i>In Pakistan, as in other developing countries, structural deficiencies due to the current economic situation have led to considerable deficits in social policies — including those related to public health care.</i></p> <p><i>Only one centre in the country (PINUM, Faisalabad) has SPECT /CT equipment. Whereas NORI, Islamabad will have its SPECT/CT scanner by 2013.</i></p> <p><i>Starting this project of Introduction of cardiac SPECT/CT hybrid imaging in evaluation of coronary artery disease will benefit a large population as it will prevent invasive diagnostic procedure where it is avoidable. The technique is fast, comprehensive, efficient and even financially advantageous.</i></p> <p><i>As most of the Institutes are using myocardial perfusion SPECT imaging for risk assessment. At least one institute in a region may be encouraged to have a CT SPECT scanner.</i></p> <p><i>Existing practice of hybrid imaging is still in development phase, it needs to be strengthened by financial assistance of such projects.</i></p>
<p><b>Why should it be a regional project?</b></p>	<p><i>SPECT/CT scanner is available in PINUM, Faisalabad, it will be available in NORI Islamabad by 2013. Its use in risk assessment in coronary artery disease will benefit patients undergoing unnecessary interventions.</i></p> <p><i>This project is going to introduce a new better technique that is hybrid imaging in the region. It's availability will add to experience &amp; knowledge of the physicians &amp; will help in correct management of patients</i></p>
<p><b>Stakeholder analysis and partnerships</b></p>	<p><i>NORI has highest number of nuclear Physicians; it will serve as the main counterpart institute. it will have its SPECT-CT equipment installed by 2013. cardiologist assisting in CT/SPECT reporting will be expected stake holders.</i></p>
<p><b>Overall objective (or developmental objective)</b></p>	<p><i>Better risk stratification &amp; better management of patients with coronary artery disease.</i></p>
<p><b>Analysis of objectives</b></p>	<pre> graph TD     A[need for hybrid imaging] --&gt; B[need for a cost effective &amp; time consuming investigation of disease]     B --&gt; C[increased prevalence of coronary artery diseases]     B --&gt; D[economic situation]     C --&gt; E[sedentary life style]     C --&gt; F[increased prevalence of diabetes &amp; hypertension]     C --&gt; G[increased intake of saturated fatty acids]     C --&gt; H[obesity]     C --&gt; I[smoking]     C --&gt; J[Genetic predisposition]     </pre>

<b>Role of nuclear technology and the IAEA</b>	<i>Utilization of SPECT/CT for improving diagnosis in CAD will introduce newer technique in the region which has a comparative advantage over non-nuclear techniques IAEA expected to provide help in capacity building by provision of infrastructure &amp; human resource.</i>			
<b>Project duration</b>	<i>Start by of 2014 and four years is proposed project duration</i>			
<b>Requirements for participation</b>	NA			
<b>Participating Member States</b>	<i>List the Member States expected to participate in this project that meet the requirements established above. Indicate the role of each Member State in the project.</i> Country: <u> Pakistan </u> Role: <input type="checkbox"/> Resource (providing expertise) <input checked="" type="checkbox"/> Target (receiving expertise)			
<b>Funding and project budget</b>	<i>Provide an estimate of the total project costs and the funding expected from each stakeholder:</i>			
		Euro	Comment	
	<i>Government cost-sharing</i>	100000	(to be sent to the IAEA)	
	<i>Counterpart institution(s)</i>			
	<i>Other partners</i>		Who?:	
	<i>IAEA Technical Cooperation Fund (TCF):</i>	<i>Fellowships / Scientific visits / Training courses/ Workshops</i>	100000	
		<i>Experts</i>		
<i>Equipment</i>		200000		
	<b>TOTAL</b>	<b>400,000</b>		