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 2014** 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.

Region:			
Regional/Cooperative agreement (if applicable)	ARCAL	**Priority no. given by regional/cooperative agreement** (for concepts proposed under the auspices of regional cooperative agreements)	
Title	Strengthening regional capacities to assess the impact of metal contaminants in water bodies and sediments		
Field of activity	M2		
Regional project category[1]	☐ *Transnational* ☐ *Regional standard setting* ☐ ***Capacity building for developing countries*** ☐ *Joint TC activities with a regional or international entity*		
Names and contact details of project counterparts and counterpart institutions (starting with the main counterpart)	Mexico Dra. Graciela Zarazúa Ortega Instituto Nacional de Investigaciones Nucleares (ININ). Gerencia de Tecnología Nuclear Carretera México - Toluca S/N, La Marquesa, Ocoyoacac, Estado de México. México. CP. 52750		
Analysis of regional Gap/problems/needs	Traditionally to assess the metal pollution degree in an ecosystem, metal concentration was determined and compared generally with international standards and criteria. Due to the environmental situation that presents Latin America is very different from countries like USA, Canada, etc. It is important to standardize criteria and harmonize methodologies to infer the origin of contaminants (natural or anthropogenic) and implement remedial measures appropriate to reduce its impact on the environment and for living beings. In this sense it is important to have an integrated training to meet the requirements of each participating country.		
Why should it be a regional project?	Because this project will support the line to continue the regional technical strengthening integrating several Latin America countries, for the use of resources and especially applied the harmonization criteria through the application of methods of sampling and analysis, improving analytical Quality Index and Water Quality, which are a result of ARCAL Projects: RLA1/010 (Improved management of pollution of surface water contaminated with metals) and RLA/2/014 (Improvement of analytical quality through proficiency testing and certification of matrix reference materials using nuclear and related analytical techniques in the Latin American Nuclear Analytical Techniques network).		
Stakeholder analysis and partnerships	The beneficiaries are the Regulatory Agencies of water in each participating country, which may have standardized methods, personnel training and advice from the participants of the network which would support the government decision-making. Moreover participating research institutions would count with validated and harmonized methodologies providing the knowledge acquired in this field, which may assist in the development and updating of national standards and criteria for water and sediments.		

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[1] 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.

Overall objective (or developmental objective)	Develop harmonized regional technical capabilities to assess the impact and origin of metal contaminants in water bodies and sediments. Governments of Latin America have interest in counting on methodologies that reflect the actual status of the environment in terms of water pollution so in different ways have sought to implement programs to improve environmental quality, unfortunately in some countries the lack of training and limited financial resources has limited its app this important action. Therefore this project can promote the application of research to contribute to the conservation of water bodies that are vital for human beings.
Analysis of objectives	Design a strategy for harmonized sampling of surface water, sediments and soil in an aquatic ecosystem that is considered impacted by metal contamination. Establish the implementation of a harmonized methodology for sampling, analysis and analytical quality control in water bodies and sediments in order to assess the concentration of heavy metals, metalloids and stable isotopes using nuclear and related analytical techniques. Harmonize methodologies to infer the origin of pollutants through the Enrichment Factor, Geo-accumulation Index, Major Components and Isotope Ratio. Assess the impact of inorganic contaminants using the harmonized ICA for Latin America and the Caribbean. Establish a Latin American Network working group trained in the application of nuclear and related analytical techniques in the study of the environmental impact of metal contaminants to define mechanisms for exchange of information and knowledge through the sharing of experiences, inter-comparisons and lessons learned
Role of nuclear technology and the IAEA	We propose to use X-ray fluorescence and neutron activation like nuclear analytical techniques, which have the advantage of multielement and complementary. Because many countries do not have these techniques are proposed using analytical techniques related (ICP-OES, Atomic Absorption). In this project, high resolution mass spectrometry is important to determines the isotopic ratios which are useful to infer the origin of metals *Role the IAEA expected to play in the project?* Expert support, Help in organizing training courses and workshops, Meetings and monitoring of project activities, Supply of equipment and software
Project duration	*3 years*
Requirements for participation	Participating countries must have identified a body of water that present problems of metal contamination, have sampling equipment for water and sediment, have personal who can perform sampling, have at least an analytical technique for the determination of metals and physicochemical analysis, have computer equipment that allows running statistical programs
Participating Member States	*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.* *Country: _____Chile_____ Role:* 　☐ **Resource (providing expertise)** 　☐ *Target (receiving expertise)* *Country: _____Brazil_____ Role:* 　☐ **Resource (providing expertise)** 　☐ *Target (receiving expertise)* *Country: _____Cuba_____ Role:* 　☐ *Resource (providing expertise)* 　☐ **Target (receiving expertise)**

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Country: _____Peru_____ Role:
- ☐ *Resource (providing expertise)*
- ☑ ***Target (receiving expertise)***

Country: ___El Salvador_____ Role:
- ☐ *Resource (providing expertise)*
- ☑ ***Target (receiving expertise)***

Country: _____Guatemala____ Role:
- ☐ *Resource (providing expertise)*
- ☑ ***Target (receiving expertise)***

Country: ___Costa Rica_____ Role:
- ☐ *Resource (providing expertise)*
- ☑ ***Target (receiving expertise)***

Country: República Dominicana__ Role:
- ☐ *Resource (providing expertise)*
- ☑ ***Target (receiving expertise)***

Country: __Venezuela   _____ Role:
- ☐ *Resource (providing expertise)*
- ☑ ***Target (receiving expertise)***

Country: _____Uruguay_____ Role:
- ☐ *Resource (providing expertise)*
- ☑ ***Target (receiving expertise)***

Country: _____Paraguay ____ Role:
- ☐ *Resource (providing expertise)*
- ☑ ***Target (receiving expertise)***

Country: _____Argentina_____ Role:
- ☑ ***Resource (providing expertise)***
- ☐ *Target (receiving expertise)*

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Funding and project budget	

Funding and project budget	*Provide an estimate of the total project costs and the funding expected from each stakeholder:*			
			Euro	Comment
	Government cost-sharing			(to be sent to the IAEA)
	Counterpart institution(s)			
	Other partners			Who?:
	IAEA Technical Cooperation Fund (TCF):	*Fellowships / Scientific visits / Training courses/ Workshops*	300000	
		Experts		
		Equipment		
		TOTAL	300000	