

2003-2004 Proposals for Agriculture

No.	Project Title	Objectives	Proposed Budget (\$)		Duration	Participating Member States
			2003	2004		
1	RAS/5/039 - Restoration of Soil Fertility and Sustenance of Agriculture Productivity (continuation)	<p>The general objective of the project is to develop improved soil, water, nutrient, and crop management practices while counteracting predominant soil degradation processes like nutrient depletion, soil acidification, and soil erosion in order to increase and sustain crop productivity.</p> <p>The specific objectives are to:</p> <ul style="list-style-type: none"> improve fertilizer management practices to increase the efficiency of chemical and bio-fertilizers to optimize the cost-effectiveness of fertilizer inputs, identify crop residue management practices to enhance the nutrient availability to crops and improve soil fertility, and develop agronomic practices to minimize soil degradation processes such as nutrient depletion (soil erosion), acidification, etc., relevant to each participating country; and measure soil erosion and sedimentation and associated pesticide contamination. 	154,000	339,000	2001 - 2004	BGD, CPR, IND, INS, MAL, MON, MYA, PHI, SRL, THA, VIE (11)
2	RAS/5/040 - Development of Better Genotypes of Food and Oil Crops and Pulses (footnote <u>a</u>) <i>upgrading</i>	<p>The specific objectives of the project are:</p> <ul style="list-style-type: none"> to use radiation-induced mutation breeding technology combined with biotechnology to develop improved germplasm of food crops, oil crops, and pulses; and to establish a Mutant Germplasm Network (MGN) of promising genotypes of selected crops. 	150,000	200,000	2003 - 2005	BGD, CPR, IND, MON, PAK, VIE (6)
3	RAS/5/042 - Application of Food Irradiation for Food Security, Safety, and Trade (continuation)	<p>The general objective if the project is to improve food security, food safety, and inter-country trade of food products, by irradiating the products.</p> <p>The specific objectives are:</p> <ul style="list-style-type: none"> to facilitate the expansion of the use of food irradiation in Regional Co-operative Agreement (RCA) countries; and to improve international trade in irradiated food within the region through: continued public awareness and acceptance of radiation processing of food and for phytosanitary treatment; conducting inter-country market trials of irradiated food commodities; and training of personnel in specific fields, such as plant operation, maintenance, and 	100,000	100,000	2001 - 2004	AUL, BGD, CPR, IND, INS, MAL, MON, MYA, NZE, PAK, PHI, ROK, SIN, SRL, THA, VIE (16)

		microbial safety.				
4	The Use of Nuclear and Related Techniques for Better Management of Water and Nutrients in Dryland Cropping System (new)	<p>The general objective of the project is to develop integrated technology package on the management of water and nutrients in dryland cropping system and transfer it to farmers.</p> <p>The specific objectives of the project are:</p> <ul style="list-style-type: none"> • to identify varieties of wheat, sorghum, corn, oilseed, pulses, etc. with high water use efficiency in dryland cropping system; • to evaluate the effects of engineering practices such as plastic film covering, conservation tillage, irradiation-modified soil conditioners, water conservation measures on crop growth and yield for better use of water resources; • to develop water-saving practices that harmonises the use of water and nutrients; 4) to develop agronomic practices to minimize the use of water and balance the nutrients in inter-cropping or rotation cropping system; and • to integrate a technology package on better management of water and nutrients toward farmers. 	105,000	140,000	2003 - 2006	BGD, CPR, IND, INS, MON, MYA, PAK, PHI, SRL, THA, VIE (11)
5	RAS/5/041 - Production of FMD Antigen and Antibody ELISA Reagent Kit (footnote <u>a</u>) <i>upgrading</i>	<p>The general objective of the project is to control and eventual eradication of foot and mouth disease (FMD) in the East Asia and the Pacific region.</p> <p>The specific objectives are:</p> <ul style="list-style-type: none"> • to produce enzyme-linked immunosorbent assay (ELISA) kits for antigen and antibody detection at a lower cost than currently commercially available for the diagnosis of FMD; and • to develop the capability for diagnosing FMD using ELISA by the FMD national laboratories in the region. 	100,000		2003 - 2004	BGD, IND, MAL, MYA, MON, PHI, SRL, VIE (8) (CAM, LAOS)
6	RAS/5/035 - Better Management of Feeding and Reproduction of Cattle (extension)	<p>The general objective of the project is to improve the productivity and reproductive efficiency of livestock in the East Asia and the Pacific region.</p> <p>The specific objectives are:</p> <ul style="list-style-type: none"> • to consolidate and disseminate the use of strategic supplementary feeding using urea molasses multi-nutrient block (UMMB) and other non-conventional local feed resources; • to improve the performance of artificial insemination (AI) services; and • to promote better reproductive management by farmers. 	75,000	50,000	1999-2004	BGD, CPR, IND, INS, MAL, MON, MYA, PAK, PHI, SRL, THA, VIE (11)
		Sub - total	684,000	829,000		
		TOTAL	1,513,000			

2003-2004 Proposals for Health

No.	Project Title	Objectives	Proposed Budget (\$)		Duration	Participating Member States
			2003	2004		
1	RAS/6/033 - DAT in Radiation Oncology (extension)	<p>The general objective of the project is to contribute to the sustainable development and treatment of disease using ionising radiation through improved regional training and skills.</p> <p>The specific objectives of the project are:</p> <ul style="list-style-type: none"> • to provide of a clinically relevant teaching for specialist medical trainees on the basic science on oncology using distance education techniques via the Internet; and • to trial the distance education materials (conduct an assessment trial in 3 countries). 	120,000	95,000	2003 - 2004	AUL, CPR, MAL, JPN, PAK, PHI, VIE (Tripartite project AFRA, ARCAL & RCA)
2	Strengthening Medical Physics in the Asia & Pacific Region <i>new</i>	<p>The general objective of the project is to have a better health standard in Asia and the Pacific Region.</p> <p>The improvement of medical physics health services capability and capacity in the Asia-Pacific region through the establishment of :</p> <ul style="list-style-type: none"> • a regional for a common quality assurance program through the medical application of QA/QC and technical standards and operating practices in the key areas of medical physics; and • a standard regional training program for education and training of medical physicist. 	145,000	80,000	2003-2004	AUL, INS, JPN, MAL, PAK, PHI
3	RAS/6/029 - DAT for Nuclear Medicine Technicians (extension)	<p>The overall objective of the proposed extension to the project is to maximise the impact of the training materials by extending the implementation of training courses for Nuclear Medicine Technologists.</p> <p>The specific objectives are:</p> <ul style="list-style-type: none"> • To modify and complement materials based on 	140,000	70,000	2003-2004	AUL, BGD, CPR, IND , INS, JPN, MAL, PAK, PHI, ROK, SRL, VIE

		<p>experience of the countries participating in stage 2 of the project and the final evaluation.</p> <ul style="list-style-type: none"> • To introduce the course to further countries in the RCA region, specifically Indonesia and Vietnam where translation would be necessary and requirements for support may be higher than normal; and • To provide direct support for students undertaking the training via Internet as well as general support for co-ordinators in the various participating countries. 				
4	Osteoporosis & Serum Turn Over by RIA & DEXA <i>new</i>	<ul style="list-style-type: none"> • Reduction of morbidity & mortality due to osteoporosis by its early detection and proper treatment 	50,000	50,000	2003 - 2004	BGD, CPR, IND, PAK, SIN, SRL, THA
5	Treatment with Unsealed Radioactive Source: Prevention of Coronary Restenosis <i>new</i> + Radiosynovectomy <i>new</i>	<ul style="list-style-type: none"> • Better management of post PTCA patients • Reduction of morbidity and mortality of patients with coronary heart disease • Better management of patients with metastatic bone pain and intractable arthritic pain 	200,000	200,000	2003 - 2004	BGD, CPR, INS, PHI, SIN, THA AUL, BGD, CPR, IND, INS, JPN, ROK, MAL, MON, NZE, PAK, PHI, SIN, SRL, THA, VIE
6	Early Detection of Hemorrhagic Dengue by Radioisotope labelled PCR/DNA <i>new</i>	To contribute to national health programme in Member States through the reduction of mortality & morbidity due to hemorrhagic dengue by its early detection	75,000	75,000	2003 - 2004	BGD, IND, MAL, PAK, PHI, THA, SIN, SRL, VIE
7	Management of Liver Cancer Using Transarterial Radioconjugate Therapy <i>new</i>	<ul style="list-style-type: none"> • Reduction of mortality and morbidity of primary liver cancer through the use of Rhenium-188 Lipiodol • Establishment of a universal strategy for the management of patients with inoperable 	50,000	50,000	2003 - 2004	CPR, INS, MAL, MON, MYA, SIN, VIE

		hepatocellular carcinoma				
8	RAS/6/035 – LDR and HDR Brachytherapy in Treating Cervical Cancer (extension)*				2003 - 2004	AUL, BGD, CPR, IND, INS, JPN, MAL, MON, MYA, NZE, PAK, PHI, ROK, SIN, SRL, THA, VIE
			Sub - total	780,000	620,000	
			TOTAL	1,400,000		

* This project is supported by extra-budgetary fund from the Government of Japan

2003-2004 Proposals for Environment

No.	Project Title	Objectives	Proposed Budget (\$)		Duration	Participating Member States
			2003	2004		
1	Improved Information of Urban Air Quality Management in the RCA Region - <i>extension</i> (formerly RAS/8/082)	<p>The overall objective of the project is to obtain a sufficiently large set of high quality data characterising airborne particulate matter in the fine and coarse breathable modes such that:</p> <ul style="list-style-type: none"> the effectiveness of actions taken by participating countries to reduce the concentrations and impacts of particulate pollution can be assessed; advanced receptor models can be employed to provide more detailed and accurate descriptions of the types and locations of pollution sources that contribute to continuing particulate concentration problems; and a regional relational database can be developed that contains selected data characterising the aerosol in the RCA region. 	234,000	185,500	1999 - 2004	AUL, BGD, CPR, IND, INS, MAL, MYA, MON, NZE, PAK, PHI, ROK, SIN, SRL, THA, VIE (16)
2	Enhancing the Marine Coastal Environment - <i>extension</i> (formerly RAS8/083)	<p>The overall objective of the project is to enhance the quality of life in the coastal zone through the application of nuclear techniques to addressing problems associated with:</p> <ul style="list-style-type: none"> ameliorating the effects of historical pollution; minimising the impact of effluent currently released to the coastal zones; and contributing to sustainable development through the effective design of coastal engineering works. <p>The specific objectives of the project are;</p> <ul style="list-style-type: none"> To extend the marine radio-activity database ASPAMARD and provide baseline data; To use isotope techniques to identify the source of organic pollutants in highly contaminated regions and to study their transport and dispersion; to extend 	280,000	275,000	1999 - 2004	AUL, BGD, CPR, IND, INS, MAL, PAK, PHI, ROK, SIN, SRL, THA, VIE (13)

		<p>the studies to radioactive pollutants;</p> <ul style="list-style-type: none"> • To address HAB concerns by extending the capabilities for saxatoxin assay throughout the Region and to contribute to the prediction of the occurrence of the algal blooms; and • To apply nuclear and modelling techniques to address problems such as a) the transport of unconsolidated contaminated mud as met e.g. in dredging operations; b) the impact of sediment transport on e.g. the efficiency of coastal power stations; and c) the environmental impact of major events such as typhoons or severe storms. 				
3	<p>Isotope Techniques for Groundwater Contamination Studies in the Urbanised & Industrial Areas <i>new</i></p>	<p>The main objectives of the project are:</p> <ul style="list-style-type: none"> • Management and prevention of the potable groundwater quality from further degradation in urbanised and industrial areas selected by each RCA MS; and • To promote use of environmentally safe nuclear techniques in relation to conventional techniques (chemical, biological) and mathematical modelling for the study of pollutant behaviour/contaminant transport in unsaturated zone and groundwater systems. <p>The specific objectives of the projects:</p> <ul style="list-style-type: none"> ◆ To monitor the movement and behaviour of pollutants in potable groundwater flow system(s) in big cities ◆ To introduce relatively new isotope hydrological tools (use of 11B isotope analysis facility available within any of the participating RCA Member State or a relatively more economical Direct 14CO2 Absorption Technique developed by Pakistan) for groundwater pollution monitoring. ◆ To make use of computer models/numerical models for simulation of contaminant transport. ◆ To formulate preventive measures that will control 	255,000	293,000	2003 - 2004	<p>BGD, CPR, IND, INS, MAL, MON, PAK, PHI, ROK, SIN, THA, VIE (12)</p>

		<p>surface and groundwater pollution.</p> <ul style="list-style-type: none"> ◆ To formulate groundwater management policy and preventive measures that will control surface and groundwater pollution. 				
4	RAS/8/092 - Investigating Environment and Water Resources in Geothermal Areas (continuation)	To strengthen the mechanism which has been established under RAS/8/075 for promoting technology transfer and to and sustain collaborative efforts on the use of isotope and geochemical techniques in investigating the impacts of geothermal development on the environment and water resources.	199,220	150,000	2001 - 2004	CPR, IND, INS, MAL, PAK, PHI, VIE (7)
5	RAS/8/093 - Use of Isotopes in Dam Safety and Dam Sustainability (continuation)	To promote the use of environmentally safe isotope techniques in the operation and management of dams and reservoirs; and to draw up a strategy for adaptation and transfer of technology to the end users.	254,300	150,000	2001 -2004	AUL, CPR, IND, INS, KOR, MON, MYA, PAK, PHI, SRL, THA, VIE (12)
		Sub - total	1,222,520	1,053,500		
		TOTAL	2,276,020			

2003-2004 Proposals for Industry

No.	Project Title	Objectives	Proposed Budget (\$)		Duration	Participating Member States
			2003	2004		
1	RAS/8/085 - Non - Destructive Testing and Evaluation (extension)	<ol style="list-style-type: none"> 1. Harmonization of NDT Qualification and Certification process in the region. in view of the emerging technologies and new standards. 2. Preparation of NDT test pieces for defect sizing for training and examination purposes. 3. Support of qualifications and certification programme for Level-3 courses to those RCA member states, who still do not have Level- 3 qualified personnel. 4. Introduce the use of nuclear and non-nuclear techniques for the assessment of castings and , concrete structures including buildings and bridges for quality and reliability. 5. Introduce advanced imaging techniques like industrial digital radiology and computed tomography for non destructive testing and examination of industrial specimen. 6. Support the accreditation of NDT laboratories as per international standards. 	200,000	175,000	1999 - 2004	BGD, CPR, IND, INS, ROK, MAL, MON, MYA PAK, PHI, SRL, THA, VIE (13)
2	RAS/8/089 - Optimisation of materials in industry by using on-line bulk analysis techniques (extension)	<p>The general objective of the project is to trial evaluations of the technologies by industrial end-users have shown immediate economic advantages. In a study with coal blending in Australia for example, the immediate benefit has been estimated at more than \$2 million/year/mine. It has been shown that on-line quality control can be increased through the use of bulk analysis instrumentation. It is necessary to maintain tight control of minerals used in the manufacture of cement to achieved the desired strength and other properties.</p> <p>The specific project objectives are:</p> <ul style="list-style-type: none"> • to carry out the demonstration and training of 	125,000	80,000	2001 - 2004	AUL, CPR, IND, MON, NZE, VIE (6)

		<p>advanced on-line bulk analysis gauges NCS technology in the region under local conditions;</p> <ul style="list-style-type: none"> • to provide national demonstrations for specific industrial applications of advanced on-line bulk analysis gauges NCS technology. • through the Regional Demonstration and Training Centre, to provide specialised training for the key researchers and projected industrial end-users in the use of this technology. • to train key personnel in appropriate national research institutes and target industries in the use of advanced on-line bulk analysis gauges NCS technology so as to provide national technical expertise and awareness required for these developments. • to inform and demonstrate to decision-makers and executives in appropriate industries and associated planning Agencies (both Government and non-Government) the practical, technical and economic benefits of implementing this NCS technology. 				
3	RAS/8/090 - Modification of Natural Polymers Through Radiation Processing (extension)	To demonstrate the production of useful products from indigenous natural polymers; to produce value-added products; and to increase the use of indigenous natural polymers through the use of radiation processing.	100,000	50,000	2001 - 2004	BGD, CPR, IND, INS, MAL, PAK, PHI, ROK, THA, VIE (10)
4	RAS/8/091 - Process Diagnostics and Optimisation in Petro - Chemical Industry (extension)	The general objective of the project is to maximise the radioisotope technology transfer to end users, to implement and sustain the commercial routine application of radiotracers for problem solving of technology in priority industrial sectors: in petroleum industry and chemical process industry increasing the productivity and reducing the environmental impact.	200,000	195,000	2001 - 2004	BGD, CPR, IND, INS, ROK, MAL, MON, MYA PAK, PHI, SRL, THA, VIE
		Sub - total	625,000	500,000		
		TOTAL	1,125,000			

2003-2004 Proposals for Energy & Research Reactor

No.	Project Title	Objectives	Proposed Budget (\$)		Duration	Participating Member States
			2003	2004		
1	Role of Nuclear Power and other Energy Options in Competitive Electricity Markets <i>new</i>	<p>The general objective of the project is to develop capability in member states in analyzing the role of nuclear power in competitive electricity market. The specific objectives of the project are:</p> <ul style="list-style-type: none"> • Enhance capabilities of RCA member states to elaborate sustainable energy strategies; • Assess the role of nuclear power and other energies competitive market; and • Provide recommendations on policies measures. 	220,000	160,000	2003 -2004	BGD, CPR, IND, INS, MAL, MON, PAK, PHI, ROK, SRL, VIE (11)
2	RAS/4/020 - Improvement of Research Reactor Operation and Utilisation (continuation)	The objective of this project is to bring about qualitative and quantitative improvements in various aspects of research reactor operation and utilisation; specifically to improve information exchange between research reactor personnel of Member States in selected priority areas such as supply of radioisotopes, safety assessment, instrumentation and control (I&C) of existing and new research reactors, and measurement of reactor parameters.	166,200	155,200	2001 - 2004	AUL, BGD,CPR, IND, INS, MAL, MYA, PAK, PHI, ROK, THA, VIE (12)
		Sub - total	386,200	315,200		
		TOTAL	701,400			

2003-2004 Proposals for Radiation Protection

No.	Project Title	Objectives	Proposed Budget (\$)		Duration	Participating Member States
			2003	2004		
1	RAS/9/018 - Harmonisation of Radiation Protection (extension)	<p>The overall objective is to harmonize and further enhance the radiation protection infrastructure in support of industrial activities and health services in the Regional Co-operative Agreement (RCA) Member States complementing the activities under the two new Model Projects (RAS/9/026 and RAS/9/027).</p> <p>The specific objectives are:</p> <ul style="list-style-type: none"> • to improve the regulatory control and safe handling of radiation sources through legislation and regulations consistent with the requirements of the Basic Safety Standards (BSS); • to provide an opportunity for personnel working in industrial practices involving ionizing radiation to acquire adequate knowledge and experience to work with and handle radiation sources and facilities safely; • to harmonize techniques for measurement of personal and ambient dose equivalents for effective implementation of radiation protection; and • to strengthen the radiation protection and quality assurance in medical exposures. 	250,000	250,000	2003 - 2004	17 MSs
		Sub - total	250,000	250,000		
		TOTAL	500,000			

2003-2004 Proposal for TCDC

No.	Project Title	Objectives	Proposed Budget (\$)		Duration	Participating Member States
			2003	2004		
1	RAS/0/025 - Technical Co-operation Among Developing Countries (continuation)	<p>To promote technical co-operation among developing countries (TCDC) in the nuclear field within the Regional Co-operative Agreement (RCA) Member States and with other regions/regional agreements; expand and promote the capabilities of the Electronic Networking & Outreach (ENO) framework by:</p> <ul style="list-style-type: none"> Assessing and integrating Web-enabled distance-learning facilities using the ENO-framework for all distance-learning initiatives within the region; Expanding and enhancing the current Regional Resource-Unit Information database with additional information concerning i) expertise available in the region, ii) facilities and equipment, iii) services and training offered and link the above to the ENO framework; and Enhancing the ENO-framework with additional features and carry out activities in promoting the use of the ENO-capabilities, resulting in sustainable usage. <p>And to develop and demonstrate the cyber learning/training methodologies and interface mechanism for different distance learning initiatives in nuclear related activities like: distance learning in radiation protection, emergency preparedness, tissue banking, nuclear medicine oncology, nuclear power projects, etc.</p>	50,000	50,000	2003-2004	BGD, CPR, IND, INS, MON, MAL, MYA, PAK, PHI, ROK, SIN, SRL, THA, VIE (14)
	(Phase II)		52,500	52,500	2001-2004	17 MSs
	<i>new</i>		97,000	97,000	2003-2004	17 MSs

2	Construction and Maintenance of Website - Radiation Sterilisation in Tissue Banking <i>new</i>	To develop a website which can deliver the IAEA/BBC/MU Advance Training Course cum Master Degree Program and the IAEA/NUS curriculum in Radiation and Tissue Banking in the most easy and convenient way.	96,000		2003 -2004	17 MSs
		Sub - total	295,500	199,500		
		TOTAL	495,000			