

**ORAL HEALTH OF LOW INCOME CHILDREN:  
PROCEDURES FOR ATRAUMATIC RESTORATIVE TREATMENT (PRAT)**

(TC-98-07-02-7-RG)

**EXECUTIVE SUMMARY**

**REQUESTER:** Ecuador, Panamá and Uruguay

**EXECUTING AGENCY:** Pan American Health Organization (PAHO) through the Regional Oral Health Program of the Division of Health Systems and Services Development

**BENEFICIARIES:** Ecuador, Panamá and Uruguay

**FINANCING:**

IDB:	US\$ 870,200 (JF)
Local counterpart funding:	US\$ 462,000
Total:	US\$1,332,200

**TERMS:**

Execution period:	36 months
Disbursement period:	42 months

**ENVIRONMENTAL AND SOCIAL REVIEW:** There were no recommendations from the review.

**OBJECTIVE:** To establish the applicability of the Atraumatic Restorative Treatment (ART) in Latin American and Caribbean countries, by evaluating the efficiency and effectiveness of the technique compared against conventional treatments among school age children (7-12 years old).

**DESCRIPTION:**

The proposed project would evaluate the relative effectiveness and efficiency of two modalities of preserving dental health and treating tooth decay among school age children (7 to 12 years of age) (i) one based exclusively on amalgam provided at a health facility or at a mobile dental unit by qualified dental personnel, and (ii) an alternative based on glass ionomer as the sealant and filler of choice provided at the school by low qualified health personnel, which is complemented by amalgam treatment as in the previous group, for those patients for whom glass ionomer is not indicated.

The US Food and Drug Administration Agency (FDA) has approved without restrictions the use of glass ionomers. Most recently on May 23rd., 1995 under reference K951555 and July 8th., 1996 under

reference K961448, GC Fuji IX and GC Fuji IX GP were specifically approved by the FDA. The American Dental Association (ADA) includes the ART treatment under the ADA Acceptance Program since the late 1970's

Project components:

1. A **Project Coordinator** would be hired for the overall management of the project. He/She would be the principal contact person for the IDB-PAHO and would supervise the project from PAHO's Headquarters. It would also oversee the development of the project, including the designing, implementing, monitoring and the provision of technical support to all parties involved in the project.
2. A **cost effectiveness analysis (CEA)** would be conducted to evaluate the relative effectiveness and costs of two modalities of preserving dental health and treating tooth decay among school age children (7 to 12 years of age) in each beneficiary country: i) one based exclusively on amalgam provided at a health facility or at a mobile dental unit by qualified dental personnel, and ii) an alternative based on glass ionomer as the sealant and filler of choice provided at the school by low qualified health personnel- Atraumatic Restorative Treatment (ART)- which is complemented by amalgam treatment as in the previous group, for those patients for whom glass ionomer is not indicated.
3. **Training:** dental public health professionals and support personnel would be trained in the technical and clinical aspects of the ART, and in the management of both kinds of services (ART & Amalgam based)
4. **Evaluation:** Based on the results of the CEA, the project coordinator with the Country Team Leaders support would elaborate a plan of action so that the governments of Ecuador, Panamá and Uruguay can provide effective and low-cost dental care to populations otherwise neglected due to unavailability of treatment facilities, equipment and materials.

**BENEFITS:**

The proposed project will make a significant contribution in the following areas: the ART potential of abating progression of dental caries; clinical domains in which ART is superior, inferior and complementary to

conventional alternatives; the optimal design and targeting of ART programs by age and socioeconomic groups, and scale of implementation; clinical and operational setup required to maximize clinical outcomes while containing costs of ART services; the ability of the current health financing system to bring conventional treatment to previously under-served communities and populations on a sustainable basis.

The selection of a simple, low cost, sustainable, technically and scientifically proven alternative treatment for dental caries, enables the Public Health Dental Services of the Region to reduce backlog of unmet dental needs, particularly in populations at high risk.

**RISKS:**

The risks of this project are on one part, the non acceptance and indeed rejection of ART protocols and techniques by segments of the dental profession, due to the present non-availability of adequate information on its advantages and limitations. There also exists the risk that improper application of the technique will lead to poor restorations or restorations that develop abscesses and pain for the patient. Thus, the training component of the project is critical to minimize these risks.

**THE BANK'S  
COUNTRY STRATEGY:**

The Bank's involvement in oral health delivery services has been limited. The potential for wide scale implementation of the new PRAT technique, following on this project's success will place the Bank in the position of facilitating the incorporation of low cost dental services in the benefit package of health sector reform efforts. This is entirely consistent with its mandate under the 8th replenishment and its broad Health Sector Strategy, which emphasizes the development of effective, efficient, and people oriented health services.

**SPECIAL  
CONTRACTUAL  
CONDITIONS:**

As a condition for the first disbursement of Bank's funds, a letter of commitment between PAHO and each of the countries' Ministry of Health will specify in detail the contribution of resources made by each of them to the execution of the Project.



## I. BACKGROUND

- 1.1 In terms of lost years of life, adjusted for disability, (DALY's)<sup>1</sup> tooth decay in the Latin American & Caribbean (LAC) countries, produces individually the same impact as lung cancer, iodine deficiency, sexually transmitted diseases (excluding HIV) and malaria. Tooth decay in developing countries affects all segments of the population. However, the prevention and treatment of this condition is more available to the middle and higher income groups. Thus, tooth decay and its negative effects, impact the poor disproportionately, constituting a source of infection and impairing the chances of employment.
- 1.2 The population in general assigns a high priority to dental health as measured by private health expenditures. In some countries in the Region, such as Ecuador, the private expenditure on dental and similar services represent up to 3.5% of total expenditure in health services, being even higher if institutional expenditures on dental care are taken into account. In Ecuador, 1.5% of Ministry of Health's budget is allocated to the oral health program, which includes prevention, dental care, health education and others<sup>2</sup>, almost exclusively for the lower socio-economic strata.
- 1.3 Due to the associated technological requirements, dental treatment has been historically expensive. In accordance to this fact, access to treatment has been restricted, and the priorities assigned by institutions in charge have been limited by the availability of ever scarce funds. New treatments for cavities restoration made available by the development of new techniques and less costly procedures using less expensive materials provide the possibility to make appropriate dental treatment easily available to lower income people. This new paradigm will permit a better alignment between the perceived importance of the problem by the public and the accessibility to effective services.
- 1.4 There have been several clinical research efforts directed to find a simpler and environmentally neutral dental filler. The Atraumatic Restorative Treatment (ART) is based on the removal of decayed dental tissue using hand instruments and filling the cavity with a glass ionomer. Glass ionomers are materials that adhere chemically

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<sup>1</sup> World Development Report, 1993.

Estimation of DALYs lost to particular conditions are still tentative. Thus, Murray and Lopez, using data for 1990 arrive to a slightly lower burden of disease due to tooth decay vis a vis diabetes and sexually transmitted diseases.

<sup>2</sup> National Health Accounts, Ecuador, 1995.

to the dental tissues, thereby diminishing the need for retentive preparations normally required for other filling materials. Some glass ionomers also release fluorides, which has a cavities preventive effect. The material is easy to manipulate, and its application does not require electricity. Currently, there are at least three commercial providers worldwide (two Germans and one Japanese).

- 1.5 This technique has been extensively studied and tested in clinical trials (Frecken J., Phantumvanit P., Pilot T., Songpaisan Y., Van Ameronge E., WHO Collaborating Centre for Oral Health Services Research, Groningen, 1997). Clinical trials conducted in Thailand (1991-1994), and Zimbabwe (1993-1995) have shown proportions of post-treatment problems no larger than those of restorations with composite resins (more expensive). When using the ART for sealing permanent teeth for the prevention of cavities, the experience shows only 3% of retention problems. At present, additional studies are being implemented in several institutions in the Netherlands, Thailand, and Australia. ART has received ample support from the World Health Organization and is a valid alternative treatment within the United States. The Food and Drug Administration approved glass ionomer as a dental material without restrictions, in the mid seventies.
- 1.6 Numerous countries in the Region are conducting strong fluoridation programs developed with the assistance of the PAHO's Regional Oral Health Program. Despite this, more than 80% of children at 12 years of age are affected by tooth decay. Restoration by filling cavities with amalgam or a better material, reaches only 5 to 10% of those affected. Dental extraction is the only treatment effectively available to large proportions of the population, because it is relatively inexpensive. This is especially true for those of lower socio-economic strata and in geographically isolated areas. Complementing the fluoridation preventive approach with the application of simplified restorative cost-effective procedures would improve significantly the impact on the general population's dental health. This would be especially important for school children ages 7 to 12 who are highly affected by the pain and trauma of tooth decay.
- 1.7 The advancement of primary health care, including basic dental services, towards universal availability has been and continues to be impeded by lack of operational knowledge. There is no correspondance between state-of-the-art medicine knowledge and how potentially effective techniques should be applied in particular country settings, targeting specific populations, and supported by community and health infrastructure. "Much still needs to be learned about [basic health care] application under local conditions, and during its operation, control and evaluation questions will arise which will require research. These may be related to such issues as the organization of primary health care within communities and of supporting services; the mobilization of community support and participation; the best ways of applying (existing and appropriate) technology; the planning for and training of community health workers, their supervision, their

remuneration and their career structure; and methods of financing primary health care"<sup>3</sup>.

- 1.8 The above described situation is particularly true when we deal with leading edge treatments and the means by how they are applied in countries in the Region (LAC). In the case of ART, although there is sufficient international clinical data on how successful is the treatment, there is no relevant data on applicable experiences in LAC countries and how it compares with traditional ways of dealing with tooth decay in the Region. Recently several countries in the Region have manifested their interest in conducting operational research on the application of the ART technique and how it compares in terms of efficiency and effectiveness with conventional treatments (amalgam based) and/or the lack of treatment due to the lack of available funds.
- 1.9 The LAC Region has a wide set of different social, economic and cultural settings that manifest themselves in differences in rurality, income, institutional development and epidemiological profiles. Ecuador, Panamá and Uruguay recently have requested assistance from the Bank to learn how the ART technique may be a cost-effective alternative to improve the level of oral health in their particular environments. Due to the fact that these countries have a wide range of cultural, social, economic and epidemiological settings that somehow "represent" the diversity of the LAC Region, research conducted in these countries could easily be extrapolated to other countries in the Region.
- 1.10 So far the Bank's involvement in oral health services delivery has been limited. The potential for wide scale implementation of the ART technique, following on this project's results would allow the Bank to influence positively the development of oral health of the Region. This would be accomplished by introducing simplified/low cost techniques in the benefit package of health services delivered to low income people through health sector reform efforts. This is entirely consistent with its mandate under the 8th replenishment and its broad Health Sector Strategy, which emphasize the development of effective, efficient, and people oriented health services.

## II. OBJECTIVE

- 2.1 To establish the applicability of the Atraumatic Restorative Treatment in LAC countries by evaluating the efficiency and effectiveness of the technique compared against conventional treatments among school age children (7-12 years old).

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<sup>3</sup> "Declaration of Alma-Ata". Primary Health Care, Report of the International Conference on Primary Health Care, Alma-Ata, USSR, 6-12 September 1978. WHO/UNICEF, Geneva: WHO, 1978.

### III. DESCRIPTION

- 3.1 The proposed project would evaluate the relative effectiveness and efficiency of two modalities of preserving dental health and treating tooth decay among school age children (7 to 12 years of age) (i) one based exclusively on amalgam provided at a health facility or at a mobile dental unit by qualified dental personnel, and (ii) an alternative based on glass ionomer as the sealant and filler of choice provided at the school by low qualified health personnel, which is complemented by amalgam treatment as in the previous group, for those patients for whom glass ionomer is not indicated.
- 3.2 The US Food and Drug Administration Agency (FDA) has approved without restrictions the use of glass ionomers. Most recently on May 23rd., 1995 under reference K951555 and July 8th., 1996 under reference K961448, GC Fuji IX and GC Fuji IX GP were specifically approved by the FDA. The American Dental Association (ADA) includes the ART treatment under the ADA Acceptance Program since the late 1970's
- 3.3 Based on the results of this study, the project would finance the elaboration of a plan of action to introduce a cost effective, highly efficient restorative treatment modality for cavities with the possibility of dissemination throughout the entire Region. The study would be conducted in Ecuador, Panamá and Uruguay as a testing ground representative of most social, cultural, economic and epidemiological situations accross the Region.
- 3.4 The proposed project would have three components: (a) Cost-Effectiveness Analysis; (b) Human Resources Training; (c) Monitoring and Evaluation of Activities.
- A. Project Coordination US\$252,000
- 3.5 A coordinator would be hired for the overall management of the project. He/She would be the pricipal contact person for the IDB-PAHO and would supervise the project from PAHO's Headquarters. It would also oversee the development of the project, including the designing, implementing, monitoring and the provision of technical support to all parties involved in the project. This component would also finance the tickets and perdiem necessary for the Coordinator mobilization for the duration of the project.
- B. Cost-Effectiveness Analysis (CEA)<sup>4</sup> US\$730,200
- 3.6 CEA will be conducted alongside ART-related clinical activities and be based on a longitudinal community field trial involving an ART intervention sample and a non-ART control sample. Given a

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<sup>4</sup> The study design and protocol of the CEA is detailed in Annex I.



significant amount of documented evidence on the ART clinical and epidemiological benefits, the upcoming study will not be a trial of ART clinical effectiveness per se but, predominantly, an evaluation of ART cost-effectiveness relative to a conventional alternative. Amalgam-based treatments will play the role of such alternative.

- 3.7 The study will produce a comparative cost-effectiveness rating of ART reflecting the correctness of its application in terms of compliance by caregivers of a specific country with the ART planning, organizational and clinical requirements. According to the proposed study design, CEA would aim to establish the applicability of the implementation of ART versus the amalgam-based restorations increased up to the level of need.
- 3.8 In order to consider amalgam restorations as a competitive alternative to ART, it must be assumed that amalgam is made available at the same (need-based) level of supply as ART is intended to be, i.e. as if amalgam were brought to currently under-served communities. Baseline study on the CEA sample will include estimation of the currently existing supply gap and to what extent it can be filled by dental clinics and practices on the basis of their office operation. The demand for outreach services will be identified. To add this component, the one-time cost of procuring or renting mobile units will have to be factored in. Staffing and operating such units will add to recurrent costs of conventional dental care. In summary, the ART alternative will be compared not to the currently available amalgam-based treatments but to the amalgam-based treatments made available on a larger scale and in a more equitable way.
- 3.9 Concurrent with the definition of the study as a controlled community trial, the CEA sample (to be defined within the scope of project activities) will consist of two sub-samples: intervention and control. Children in the intervention group will undergo annual dental examinations and will receive ART procedures based on need, largely, determined by the number of decayed teeth at the point of examination. Children in the control group also will be taken through annual examinations and would get amalgam-based treatment financed to the extent possible through locally available sources. Should a financing gap result from the inability of local sources to cover the entire cost of amalgam restorations, the project will cover that gap.
- 3.10 Both the control and the intervention samples will be comprised of a similar number of children and will be drawn from the same community populations in order to control for the background variables of dental health status, such as age, income, education, place of residence. Mean DMFT (decayed, missing, and filled teeth) score must also be similar in both groups at the beginning of the project. The sample size will be determined in two ways: (1) on the basis of PRAT pre-assessed budget; (2) by means of statistical sampling. Eventually, the outputs from both approaches would be reconciled in order to make the sample both accurate and

affordable. The country-specific sample size will be dependent on the epidemiological situation of each of the three countries.

- 3.11 Besides producing the 'main' cost-effectiveness (C/E) ratio for each alternative that would derive from a core set of measurements and assumptions, CEA is designed to generate a range of supplementary scores, each one being a product of alternatively set values of input variables in the cost-effectiveness equation. Such multi-scenario simulations (known as sensitivity analysis) will allow to assess how modification of patient age structure, reduction or growth of restoration survival rates, shift from international to domestic procurement and pricing system, change of discount rate and statistical confidence level would affect C/E ratios. The best, the worst and the break-even scenarios will be determined for ART. A break-even scenario will produce 'threshold' parameters of ART application at which an ART program would turn from looser into winner or the opposite way, dependent on how its comparative status was defined according to the 'main' C/E ratio.

C. Human Resources Training US\$222,400

- 3.12 The general trend in the use of the restorative component in oral health services using conventional methods and techniques, as well as the recent and limited development of PRAT in the Region lead us to conclude that trained dental personnel for the delivery of PRAT are very limited in most countries. Although PRAT is easier to perform than conventional dental restorative treatment procedures, it requires that all its clinical stages be adequately and correctly executed.
- 3.13 Training will be provided by two different types of workshop in each country, which will be known as the **National PRAT Workshops**. The first type includes the transmission of all the technical and clinical aspects of the ART technique. It will be directed to the field staff that will participate in the CEA as the ART care givers. There will be an effort to extend the staff of oral health beyond its current boundaries, in order to include, as ART providers, auxiliaries and eventually, primary school teachers.
- 3.14 The second type of training event will focus on the training of the dental personnel that will participate in the CEA as the amalgam-based treatment care givers. Since the CEA will compare ART and amalgam-based treatment, and the services of the latter will be increased to the level of need, the management of these services should be improved. So this type of training will not focus on the technical aspects of this treatment, but in aspects of the services delivery like their administration, the equipment maintenance, etc.
- 3.15 Important in the overall training exercise will be the preparation, reproduction and distribution of educational material in Spanish. As most of the material to date on ART has been written in English, translations of the latest published material will be required.

- 3.16 Training courses will be organized and led by the Services and Research Coordinator with the support of the Regional Project Manager and the National Team Leaders of each country. There will be one workshop on the **ART technique** and one on the **Management of Conventional Services** in each country, at an early stage of the project's implementation (refer to timeline of activities in Annex II).

D. Evaluation and Extension of PRAT US\$76,000

- 3.17 Based on the results of the CEA, the country team leaders with PAHO's support will elaborate a plan of action so that the governments of Ecuador, Panamá and Uruguay can extend and provide effective and low-cost dental care to populations otherwise neglected due to unavailability of treatment facilities, equipment and materials.

E. Organization and Execution

- 3.18 PAHO's Regional Oral Health Program, under the Division of Health Systems and Services will be responsible for executing the proposed Project. The technical responsibility within the Bank will be with the Social Programs Division from the Sustainable Development Department (SDS/SOC). The unit responsible for the administrative issues will be the Regional Technical Cooperation Division from the Integration and Regional Programs Department (INT/RTC).
- 3.19 A Regional Project Coordinator to be hired with the Bank's contribution for the duration of the project will work in close coordination with PAHO's Regional Advisor for Oral Health. The Project Coordinator will be in charge of technical continuity and all the day to day administrative aspects of the project. Refer to attached terms of reference in Annex III.
- 3.20 A dentist with full understanding of the technical aspects of the ART, will be hired as the Services and Research Specialist for the duration of the project. He/she will supervise the technology transference and provide technical assistance in the three countries to ensure proper implementation of both modalities of services, as well as a smooth coordination between services provision and research activities (refer to TOR's in Annex III).
- 3.21 An economist-statistician will be hired for up to five months through the duration of the Project to oversee the CEA. He/she will ensure that adequate data on costs and effects is gathered, that samples are properly designed and selected, and will analyze the data and write the reports required (see terms of reference in Annex III).
- 3.22 The Ministry of Health of each beneficiary country, through its Oral Health Department, will appoint a Country Team Leader. He/she will be an existing member of the Ministry's Oral Health Team and

employed to the Ministry of Health. Therefore, there will be no need for additional payment of this function. This person will be responsible for the program's local coordination and implementation. He/she will be the liaison between the respective Ministries of Health and the project PRAT and will ensure the provision of local material support and local counterpart funds. In addition he/she will help selecting the communities and personnel participating in the project, provide feedback on problems and potential obstacles to the Project Coordinator and coordinate the local project activities.

- 3.23 Field personnel, in each country, from the Department of Oral Health of the Ministry of Health will be assigned to assist the Country Team Leaders in the information gathering activities, data entry, field survey work and administrative tasks. These personnel will be compensated for their support by the Ministry of Health in each country.
- 3.24 One consultant in each country will be hired to prepare and give the National PRAT workshops. These consultants should be dentists with full understanding of both methods of dental treatment (ART and amalgam-based). They will be responsible of the training of the field personnel that will be participating in the CEA, as ART care-givers and amalgam-based treatment care-givers. (See ANNEX III for details)
- 3.25 An evaluation specialist will be hired for the coordination of the Evaluation Component of the Project. He/she will provide technical assistance and will coordinate the preparation of the Oral Health Plan of Action for each beneficiary country. (see ANNEX III for details)
- 3.26 As a condition for the first disbursement of Bank's funds, a letter of commitment between PAHO and each of the countries' Ministry of Health will specify in detail the contribution of resources made by each of them to the execution of the Project.
- 3.27 The proposed Project would be executed in 36 months and disbursed in 42 months from the date of the agreement.
- 3.28 All procurement, contracting of consulting services and the acquisition of goods and services will be conducted according to Bank's Rules and Procedures. All efforts of dissemination of the results of this project will recognize the co-patrocination of PAHO, the IDB and the Japanese Special Fund.

F. Monitoring and Reporting

- 3.29 For the purposes of project PRAT the following reports will be presented to the Bank by the Executing Agency:
  - (a) **Technical Reports** at critical stages of the project will be

presented to SDS/SOC for Bank's approval. These reports will be delivered at the following stages: (i) once the sample size and geographical settings of the CEA are determined (six months after the signature of the contract); (ii) at six months of data collection (12 months after the signature of the contract), and every 6 months there after, until the CEA is completed; iii) when the CEA is completed, a report of its results and findings; and iv) a report with the plan of action for Ecuador, Panamá and Uruguay, to extend and provide low-cost dental care to populations otherwise neglected.

- (b) **Final Report.** Within 30 days of the conclusion of the project a final report will be submitted to SDS/SOC. This report should include: (i) a short description of the project; (ii) the project's main findings; and (iii) the conclusions and recommendations regarding oral health programs in the context of Health Sector Reform.
- (c) **Financial Report.** Within 90 days of the final disbursement of funds an audited financial report of project expenditures will be submitted to the Bank.

G. Cost and Financing

- 3.30 The estimated cost of the project is US\$1,332,200. Up to US\$ 870,200 will come from the Japanese Special Fund and US\$ 462,000 from the local counterpart. The local contribution will be drawn from the Ministries of Health own budgets in each country.

PROJECT BUDGET (US\$ DOLLARS)

CATEGORY	TOTAL IDB	COUNTRIES	TOTAL
<b>1. PROJECT COORDINATION &amp; SERVICES STRENGTHENING</b>			
1.1 Project Coordinator	216,000	--	216,000
1.2 Travel and per diem	36,000	--	36,000
<b>Subtotal 1: PROJECT COORDINATION &amp; SERVICES STRENGTHENING</b>	<b>252,000</b>	<b>--</b>	<b>252,000</b>
<b>2. COST EFFECTIVENESS ANALYSIS</b>			
2.1 Services and Research Coordinator	75,000	--	75,000
2.2 Economist/Statistician	36,000	--	36,000
2.3 Country Team Leaders	--	108,000	108,000
2.4 Glass Ionomer Dental Materials	40,800	81,500	122,300
2.5 Amalgam Treatment Costs	30,800	30,700	61,500
2.6 Operational Dental & Computer Equipment	23,000	18,800	41,800
2.7 Operational Dental Materials	35,000	70,600	105,600
2.8 Travel and per diem	180,000	--	180,000
<b>Subtotal 2: COST EFFECTIVENESS ANALYSIS</b>	<b>420,600</b>	<b>309,600</b>	<b>730,200</b>
<b>3. TRAINING</b>			
3.1 Translation & Preparation of Training Materials	6,000	41,400	47,400
3.2 Consultants	50,000	--	50,000
3.3 National PRAT Workshops	--	75,000	75,000
3.4 Travel and per diem	50,000	--	50,000
<b>Subtotal 3: TRAINING</b>	<b>106,000</b>	<b>116,400</b>	<b>222,400</b>
<b>4. EVALUATION/EXTENSION of PRAT</b>			
4.1 Evaluation Specialist	20,000	--	20,000
4.1 Publication of Educational Materials	--	36,000	36,000
4.2 Publication of the Final Report	20,000	--	20,000
<b>Subtotal 4: EVALUATION</b>	<b>40,000</b>	<b>36,000</b>	<b>76,000</b>
<b>5. CONTINGENCY</b>	<b>51,600</b>	<b>--</b>	<b>51,600</b>
<b>TOTAL COST OF PROJECT</b>	<b>870,200</b>	<b>462,000</b>	<b>1,332,200</b>

#### IV. BENEFITS AND RISKS

##### A. Benefits

- 4.1 The proposed CEA will make a significant contribution to country-specific knowledge in the following areas: the ART potential of abating progression of dental caries; clinical domains in which ART is superior, inferior and complementary to conventional alternatives; the optimal design and targeting of ART programs by age and socioeconomic groups, and scale of implementation; clinical and operational setup required to maximize clinical outcomes while containing costs of ART services; the ability of the current health financing system to bring conventional treatment to previously under-served communities and populations on a sustainable basis.
- 4.2 The selection of a simple, low cost, sustainable, technically and scientifically proven alternative treatment for dental caries, enables the Public Health Dental Services of the Region to reduce backlog of unmet dental needs, particularly in populations at high risk.
- 4.3 The beneficiary countries of this project are in great need of a short-term solution to satisfy unmet dental treatment needs. In addition, their population characteristics and geographical location will determine the applicability of the PRAT to the entire country and to other countries in the Region with similar demographics and unmet treatment needs.
- 4.4 Specific evaluation of the longevity of restorations done using the PRAT methodology will be conducted in each country participating in the program. Results of these data will offer valuable information, which will be used to support and promote expansion of the most cost-effective dental treatment procedures within the country and throughout the Region.

##### B. Risks

- 4.5 Inadequate communication and disclosure of project progress achieved in each country would lead to poor promotion and inadequate awareness on the part of National Health Service institutions and the community at large.

PROPOSED RESOLUTION

REGIONAL. NONREIMBURSABLE TECHNICAL COOPERATION FOR  
ORAL HEALTH OF LOW INCOME CHILDREN: PROCEDURES FOR  
ATRAUMATIC RESTORATIVE TREATMENT

The Board of Executive Directors

RESOLVES:

1. That the President of the Inter-American Development Bank or such representative as he shall designate, is authorized, in the name and on behalf of the Japan Special Fund, to enter into such agreements as may be necessary with the Pan American Health Organization (PAHO), and to take such additional measures as may be pertinent for the execution of the project proposal contained in the Document AT- , with respect to a nonreimbursable technical cooperation for Oral Health of Low Income Children: Procedures for Atraumatic Restorative Treatment.

2. That up to the sum of US\$870,200 shall be authorized for the purpose of this resolution, chargeable to resources of the Japan Special Fund.

3. That the above-mentioned sum is to be provided on a nonreimbursable basis.