

**Japan Special Fund Poverty Reduction Program (JPO)  
Community Based Program (CBP)  
Plan of Operations**

**I. Basic Project Data**

<b>Beneficiary Country, Region</b>	Brazil, South America.
<b>Project Name:</b>	Managerial solutions and information technology to improve healthcare to the poor: The Pathway House of Araxa.
<b>Project Number:</b>	BR-T1054
<b>Project Team:</b>	Andre Medici (Team Leader, SCL/SPH), Carlo Arze (ICS/CBR); Hugo Flores (SCL/SPH); Pablo Valenti (ICF/ICS); Paula Giraldez (LEG/SGO) Martha Chavez (SCL/SPH)
<b>Executing Agency:</b>	Casa do Caminho de Araxa (Araxá, Minas Gerais, Brazil)
<b>Beneficiaries:</b>	<u>Direct:</u> The Araxa Regional poorest population <sup>1</sup> covered by the Brazilian Single Health System.
<b>Date of Request:</b>	January 20, 2006
<b>Financing Plan:</b>	Japanese Fund (JPO): US\$ 150,000 Local counterpart: US\$ 85,000 Total: US\$ 235,000
<b>Tentative Dates:</b>	JPO Consideration: Approved on December 15 <sup>th</sup> , 2006. Bank Approval: August 10 <sup>th</sup> , 2007
<b>Execution Period:</b>	18 months
<b>Disbursement Period:</b>	24 months

**II Background and Problem Statement**

***A. Social and Health Conditions in Araxa – the lack of facilities for chronic diseases.***

- 2.1 The Municipality of Araxa is located in the State of Minas Gerais, Brazil, and comprehends 31 municipalities (See Annex 1). According to the 2000 Census, the High Paranaíba Region had a population of 590 thousand while the Araxa micro-region had a population of 173 thousand, respectively equivalent to 3.3% and 1.0% of the state's population.<sup>2</sup>
- 2.2 The Municipality of Araxa had in 2000, 77,743 inhabitants - 13.2% of the High Paranaíba regional population - 98.56% of which living in urban areas. Five years later the estimated population of Araxa was 84,495 inhabitants, corresponding to an 8.7% growth. During this same period, the state population increased nearly 6.9% from 17.9 to 19.1 million.<sup>3</sup> By 2004, 9.3% of the Araxa population was

<sup>1</sup> This population is estimated in 59.1 thousand inhabitants with income under US\$ 150 per month and represents 70% of the Araxa municipal estimated population in 2005.

<sup>2</sup> Fundação João Pinheiro, Datagerais: <http://www.datagerais.mg.gov.br>

<sup>3</sup> Fundação João Pinheiro, Perfil de Minas Gerais – 2005

over 60 years of age, while for the state as a whole this proportion was 10.2% in 2003.<sup>4</sup> Despite that, almost 70% of the population in working age received less than US\$150 per month, according data from the 2000 Demographic Census.

- 2.3 The progressive aging process of the regional population leads to changes in the epidemiological profile of the Region and Municipality. *Infant mortality and morbidity were reduced slightly and the rise of early mortality by chronic diseases is nowadays a major risk for the poorest population.* Cancers, circulatory and respiratory diseases were responsible for 50.5% of mortality in the municipality of Araxa, 40.7% in the micro-region of Araxa and 51.7% in the Minas Gerais State.
- 2.4 Health infrastructure in Araxa is insufficient to deal with the emerging problem of early mortality and morbidity by chronic diseases. The Araxa micro-region presents a total of 2.5 beds per inhabitant while the Minas Gerais State has 2.7 beds. Most of the beds (78%) belong to private (profit or non-profit hospitals) but  $\frac{3}{4}$  of the total beds deliver free services for the population covered by the Single Health System (SUS).
- 2.5 At the same time, the micro-region, counting with 1% of the Minas Gerais State population, has only 0.8% of the diagnostic and therapeutic equipment existing in the state. This numbers suggests that, compared to the state, the micro-region is underserved as far as equipment for specialized procedures – such as resonance, electro-encephalography, mammography, tomography, and radiology.
- 2.6 Accordingly, the micro-region has a total of 100 hospital admissions per 1,000 inhabitants – 82% in private hospitals - of which 81% is financed by SUS. The corresponding figures for the Minas Gerais State are, respectively, 107 per 1000 inhabitants, 88% and 78%.
- 2.7 These numbers demonstrate that the coverage by hospital facilities in the micro-region is lower than in the state, affecting mostly the poor population that depends of SUS. This fact is even worse if we consider that, while the micro-region was responsible for 1.0% of the hospital admissions financed by SUS in 2003, two years later this proportion went down to 0.9%.
- 2.8 As far as the causes for hospital services funded by SUS are concerned, cancers, circulatory and respiratory diseases were responsible for 39% of the admissions in the Araxa micro-region. For the state as a whole, these same causes were responsible for just 32% of the admissions financed by SUS. There is a gap in specialized healthcare that need to be filled by new hospital infrastructure.
- 2.9 Despite the fact of the Region count with a good primary care services, many of the patients referred by primary health facilities do not find easily place in the regional hospitals and have to face long lines or waiting lists to be attended in their specific needs, specially by cardiovascular diseases and cancers.
- 2.10 As demonstrated by the data above, the health status and needs of the population of Araxa is almost the same than the average of the state of Minas Gerais.

<sup>4</sup> Secretaria Municipal de Desenvolvimento Econômico e Parcerias, Prefeitura Municipal de Araxá: Informativo Sócio-Econômico 2004 and [www.ibge.gov.br](http://www.ibge.gov.br)

However, the access to the services and coverage in the city and in the Araxá micro-region are worse than those found in the state average. In order to reduce this gap, investments in the Araxá Region are necessary particularly in hospital specialized care.

### ***B. Creation and Evolution of the House***

2.11. The House initiated its operations in 1980, after being created by its current president Mr. José Tadeu as a non-profit organization with philanthropic nature. According to what has been defined by its statutes<sup>5</sup>, the House objective is to provide:

- Social welfare through health promotion, regardless of color, sex, race, nationality, political or religious creed and social position to elderly or abandoned persons; physically handicapped people; chronic patients; people suffering from multiple health problems; convalescent patients and/or individuals requiring continuous assistance; patients suffering mental illnesses and behavioral deviations of any nature;
- Spiritual orientation to people from the community and other interested individuals, as well as to patients and employees that voluntarily request it, and;
- Dissemination of the Spiritual Faith through communication media allowed by law.

2.12. Since its creation, the services provided by the House had increased and evolved, including other types of care and incorporating new philanthropic modalities<sup>6</sup>. In the fulfillment of its activities the House has always given priority to the care of low-income people. Thanks to the transparency and dedication demonstrated in its operations, the House has succeeded in mobilizing and receiving considerable confidence and support from the community.

### ***C. Services Provided by the House***

2.13. The House main activity is the provision of hospital services for chronic diseases patients requiring long-term care due to neurological, cardiac, pulmonary and rheumatic diseases. It also provides intensive and semi-intensive hospital care, both to its own patients and to patients referred by other health care providers in the region.

2.14. In addition, the following services have also being provided:

- Day hospital care to about one hundred psychiatric patients per day;
- Therapeutic and handcrafts workshops, for day-hospital and rehabilitation patients;

<sup>5</sup> Statutes of the Pathway House Social Works, article 2nd.

<sup>6</sup> Additional details about the Pathway House can be found in the webpage <http://www.casacaminho.com.br/>.

- Outpatient medical and dental services to day-hospital patients and the community in general, including the production, prescription and application of orthopedic Boots, inhalations and free distribution of phytotherapeutical drugs;
  - Nutrition and dietetic services, serving nearly 600 meals per day;
  - Pharmaceutical services to in-patients and day-hospital patients, with a considerable capacity for manipulation of medicines and biological products and;
  - Social welfare and health promotion for patients and their family members.
- 2.15. In 2004 the Psychiatric Care Unit of the House realized 35,735 procedures, of which 21,215 funded by SUS and 14,520 by donations and philanthropic funds. At the same time, the Hospital provided 9,915 procedures financed by the SUS and 8,012 sponsored by donations. On the other hand, the day-hospital produced 15,213 services and/or receptions of elderly patients<sup>7</sup>.
- 2.16. Between July 2005 and February 2006, 137 patients were admitted in the intensive care unit, of which 22 were referred by the House, 72 by other health providers from Araxa and 43 by health providers from other cities in the region<sup>8</sup>.
- 2.17. Since the House is the only provider of these kind of services in the region, its activities are critically relevant (and sometimes the only hope) for patients affected by chronic diseases as cardiovascular, pulmonary, neurological problems and handicapped persons, whose coverage is much lower than the state average.
- 2.18. On the other hand, the House health care activities are improving this efficiency by the use of cost-effective health procedures based on protocols and full financed by the SUS fees. Few health facilities in the state are able to offer the same conditions of efficiency in the services provided for the poor population.
- 2.19. The delivery of health services is and should continue to be, without any doubt, the principal function of the House. However, the House has been developing its ability to carry out other very relevant activities in support of its main function. These activities, which also can have a quite relevant impact for the definition of future prospects of the House and contribute to its medium and long-term sustainability, are the following ones:
- a) **Handicrafts production:** the House has a considerable experience in and capacity for promoting the involvement of its patients in the production of handicrafts as a therapeutic alternative. The products resulting from this activity can become an additional source of revenue for the House. Thus, taking in due consideration the ethical precautions required for this option, the possibility of the commercial exploration of this type of production should be considered as an additional source of income to finance the House activities.
  - b) **Human resources development:** besides providing incentives to the continuous education of its own staff members, the House has been offering the

<sup>7</sup> Pathway House Annual Report 2004.

<sup>8</sup> Pathway House – Data about ITU services

opportunity of internships to undergraduate university students in the Region. In this way, the House can become a regional training center for human resources from other health entities and the community itself, in the fields of technical and managerial expertise related to its areas of work.

**c) Production of health education videos and other materials:** the technical capability developed by the House in this field could be more actively used for the production of videos and other educational materials in the areas of knowledge related to its activities, to the benefit of other health entities and the community in the region.

**d) Manipulation and management of medicines and biological products:** the House experience and installed capacity in these fields could be utilized on a larger scale, in response to the demands from public and private health care providers that constitute the High Paranaíba regional SUS network.

#### ***D. Infrastructure, Human and Financial Resources of the House***

- 2.20. The House physical infrastructure includes 12 thousands square meters of construction, with 244 hospital beds, 8 intensive care beds and equipment for specialized services such as radiology, ultrasonography, electrocardiography, electroencephalography, broncofibroscopy, fibrogastroscopy, gasometry and others. It also includes meeting and prayer rooms, a swimming pool for physical exercises and a sound recording studio, in addition to a laundry with considerable capacity and a workshop for equipment maintenance.
- 2.21. This infrastructure is operated by 160 staff members, including graduated professionals in medicine, nursing, physiotherapy, occupational therapy, speech pathology, pharmacy, nutrition and dietetics, social work and psychology, supported by the respective assistants and a large team of general service workers. The medical staff includes also specialists in geriatrics, cardiology, neurology, endocrinology, rheumatology and pneumology.
- 2.22. Besides its staff, the House also benefits from the work of a considerable number of volunteers like its president and other directors, some of whom even live in the institution. To a lesser extent the House also benefits from community work of individuals imposed by judicial penalties. In 2005 the House received about 28,800 hours of voluntary work, equivalent to the work by 15 full-time workers.
- 2.23. The House also encourages, and provides incentives to, its staff members to continue professional training and specialization. It is also offering the opportunity for training internships to undergraduate students of nursing and physiotherapy from two universities in Araxá.
- 2.24. Almost 60% of the House operational costs are financed by its agreement with the public single universal health system (SUS), while more than 40% is covered by donations, volunteer work and, to a lesser extent, among the donors are private companies, individuals and the municipalities of Araxá and neighboring cities. In 2004, the services financed by the SUS generated US\$770 thousand of revenue,

while the services financed through donations reached US\$ 552 thousand.<sup>9</sup> In that same year, the House obtained US\$16 thousand from the sale of CDs, tapes, shirts and books.

- 2.25. According to its 2004 financial report, at the end of that year the House had balanced revenues and expenses worth US\$1.4 million and a net equity balance of US\$1.8 million. Based on those data, independent auditors considered the House to be in a quite satisfactory economic and financial condition.<sup>10</sup>
- 2.26. In addition to these financial revenues and donations, in that same year the House received in kind donations estimated in US\$195 thousand.<sup>11</sup> Of this total, donation of food, cleaning and hygiene materials reached US\$61 thousand - equivalent to about 60% of the total consumption of these items - while the remaining US\$134 thousand resulted from voluntary work.

#### ***E. Current Initiatives Expanding the House Installations and Activities***

- 2.27. Some gaps have recently been detected in the House capacity for responding to new demands. These gaps result from the House own operation as well as from new community and health sector demands both in Araxa and in the Region. In order to face these demands, the House must expand the volume of services it already provides, in addition to start delivering other services not yet included in its portfolio.
- 2.28. With this purpose in mind, the House started two initiatives. The main characteristics of these initiatives are summarized below.
  - a) ***Installation of the Adult and Pediatric Hospital Units*** - The construction of these units is reaching its final phase. Located in the 1<sup>st</sup> floor, the Adult Unit will have 27 beds distributed in four 5-bed infirmaries, three 2-bed apartments and a single bed isolation room. It will also have several other rooms (nursing, management, social work and medical offices, plus hospital records, studio, reception and utilities & equipment deposit) with a total area of 546m<sup>2</sup>. The Pediatric Unit is located in the 2<sup>nd</sup> floor. It will have 12 beds distributed in four 3-bed infirmaries with the respective companion chairs, plus nursing station, pantry, utilities and waiting rooms, in a total area of 426m<sup>2</sup>. The architectural project and estimated budget of these units are detailed in Annex 2.
  - b) ***Finishing and installation of the Surgical Center*** - This Center, also in its final construction stage, consists of two operating rooms, a recovery unit, a sterilization room, a nursing station, a utilities room, a management office, dressing room and baths, with a total area of 300m<sup>2</sup>. The equipment to be installed in this center is crucial for assuring the authorization of the new units by the Brazilian SUS.

<sup>9</sup> Pathway House Social Works Financial Report December 31, 2004\*

<sup>10</sup> Report from the Pathway House Financial Auditor, 31/01/05

<sup>11</sup> Value of in kind donations according to estimates by the Pathway House leadership.

- 2.29. In order to effectively operate, the new units will require a multi-disciplinary team of health professionals and their corresponding auxiliary personnel, as well as general services and administrative staff, totaling 91 people.

#### ***F. Needs of the House***

- 2.30. Despite all these facilities and proposals to expand, the House needs new paths to improve its managerial systems and the technical and administrative staff skills. The management of chronic diseases requires improvements of information and communication technology in order to achieve cost-effective administration and to provide high quality services and to achieve the patients' needs regarding timely and prompt attendance and adequacy of the results.
- 2.31. The use of electronic medical records for patients and medical protocols, as well telemedicine facilities could improve the access, efficiency and quality of care for the poor population that attend to the house facilities, increasing the social work and benefits of the current services provided by the House (See Annex 2).

### **III Project Objectives and Description**

- 3.1 ***General Objective:*** The general objective of this project is to fill the regional gap on specialized hospitalization care to attend chronic diseases by generating cost-effective procedures to the poor population of the Araxa Micro-region that use SUS financing system.
- 3.2 ***Specific Objectives:*** The specific objective of this project is to generate, in parallel to the expansion of infrastructure, the skills and managerial solutions by: (a) generation of information technology solutions to improve health management as electronic medical records for patients and medical protocols for the services provided by the House, specially in the management of chronic diseases and; (b) increase the managerial skills of medical and administrative staff by training on the use of electronic records and medical protocols by disease.
- 3.3 ***Components:*** In order to achieve these objectives, the project will be based on the implementation of the following components:
- 3.4 ***Component 1 – Information technology solutions (US\$ 65,000):*** This component intent to develop new managerial solutions for chronic diseases based in the use of information and communication technologies (ICT) witch are the basis for the development of new business models on the delivery of health services. This component will finance consultancy and equipment associated with the development and application of the following tools (a) electronic records for patients; (b) medical protocols and (c) interface to receive and transmit data to use telemedicine facilities.
- 3.5 Electronic records allow the unified management of all the information related with an impatient, including all admissions, services provided, diagnosis, drugs prescribed in a single linked file. The use of this technology allows the linkage between services and financial statements, the issue of medical bills, and the evaluation of the hospital performance case by case. It also allows more checks and balances in the system, and better supervision and evaluation. It avoids most

of medical errors and supports the cost containment and better quality in the health services.

- 3.6 Medical protocols are produced to guide the medical team to provide the cost-effective medical care and to produce better diagnosis. They are based in the clinical experience of specialists and in the local conditions to be implemented. They are based in evidence and allow standardized ways to use the hospital facilities, to use drugs from pharmacy and to improve the referral system;
- 3.7 Telemedicine is the use of medical exams, diagnosis and procedures based in online consultation and images. It allows the productivity of a hospital or health service by the use of more skilled medical expertise placed in remote areas. In Brazil and in the Minas Gerais State, some health services are offering these services to remote areas hospitals as the existing in the House.
- 3.8 Component 2 – Managerial Solutions and Training of Medical and Administrative Personal of the House: (US\$ 55,000) - This component will provide the training to medical and administrative staff in the use of the new technologies and in the development of new managerial solutions for the facilities to be built in the house. It consists in courses to be offered to the medical staff (30 persons) and managerial staff (90 persons).
- 3.9 Previous to develop the training a consultant firm will be contracted to adequate The House administrative environment to the use of the new technologies provided in the component one.
- 3.10 The training process will be composed by three phases: (a) Development of materials and contents, to be discussed with the high administration of the House and the consultants who prepared the component one; (b) Development of the training, supervision and evaluation and on the job application for medical and administrative staff.
- 3.11 Component 3 – Social communication and building community capacity: (US\$ 50,000) This component intends to create a social communication area in the House to organize courses, health fairs, and other and community strategies in order to the facilitate the use of the new managerial model by the Houses beneficiary population and to reduce their future risk on chronic diseases by co-sharing responsibilities.
- 3.12 Component 4 – Equipment (US\$ 30,000) – This component will finance the purchase of minimal equipment to be specified according the requirements of the component one. The equipment consists basically in microcomputers and interfaces for communication applied for telemedicine.

#### **IV. Impacts in Poverty Reduction and Social and Environmental Aspects**

- 4.1 The ICT services proposed by project will increase the productivity of the current hospital structure and allow the integration of high quality services proposed by the new infrastructure to be expanded with the house own resources, driven to the poor population of the Araxa Municipality and Region, contributing to the poverty reduction in 3 basic ways:

- a) Improving the quality of services and attending the chronic diseases treatment demand. All current and new services offered by the House's hospital cannot work efficiently without the definition of a new managerial model based on information technology. Better services allows better results increasing the health-human capital of this population and providing to them a more active and productive life;
  - b) Training medical and administrative staff to attend better the users of the House services, specially in the chronic diseases;
  - c) Giving more information to the community by social communication and community strategies, in order to transfer knowledge about how to prevent chronic diseases and how to use the House's facilities in order to get the best results of the offered treatment.
- 4.2 It is not anticipated that the activities to be financed in this program will have negative direct social or environmental effects; however, the development of the legal and procedural framework will comprise efforts toward the adoption of environmentally responsible procurement practices, which could lead to indirect environmental benefits. Based on the afore-mentioned, and according to the CESI Safeguard Classification toolkit, the operation has been classified as "C".

#### V. Project Cost and Financing

- 5.1 The project total cost in the amount of US\$ 235,000 will be financed through a combination of US\$ 150,000 to be provided by the JPO and US\$85,000 to be mobilized from other sources, in addition to matching funds from the House. The distribution of these resources by the different project activities according to financing source is detailed in the following table.

**Funding of the House Project by Activity and Source – in US\$**

Activity	Source of Funds		Total
	JPO	Local Counterpart	
Component 1	50,000	15,000	65,000
Component 2	50,000	5,000	55,000
Component 3	20,000	30,000	50,000
Component 4	15,000	15,000	30,000
Administration	5,000	15,000	20,000
Audit and Evaluation	5,000	5,000	10,000
Reserves	5,000	-	5,000
<b>Total</b>	<b>150,000</b>	<b>85,000</b>	<b>235,000</b>

- 5.2 The House will mobilize the corresponding budget share from other sources like private companies, NGOs, individuals, municipal, state and federal government, besides foreign donors.
- 5.3 It is recommended that a revolving fund with the equivalent of 20% of the total JPO financing be placed at the executing agency's disposal, considering the need to deal with simultaneous projects and activities in a short period of time and the absence of other sources of funding to execute the project.

- 5.4 The presentation to the Bank of the Terms of Reference to contract consulting services described in paragraph 3.4. (Items a, b and c), in the terms previously agreed with the Bank, will be a condition prior to the first disbursement.

## **VI. Executing Agency and Structure of Execution**

- 6.1 The House of Pathway initiated its operations in 1980, after being created by its current president, Mr. José Tadeu, as a non-profit organization with philanthropic nature, according has been defined by its statutes.
- 6.2 The House will have the responsibility for this project implementation, through a working team especially designated for this purpose. Under the supervision of the House directorate, a manager and three assistant managers, responsible for the technical, financial and administrative matters, will integrate the execution team of this project. This team will be also responsible for remaining in permanent communication with their technical and administrative counterparts at the Inter-American Development Bank.
- 6.3 Considering the small amounts involved and the Beneficiary capacity, all contracts and expenditures related to this technical cooperation will be subject of ex-post review by the Bank.

## **VII. Major Issues**

- 7.1 This project success will depend to a great extent on the full and timely implementation of the respective activities and tasks. This will require not just the timely completion of the physical infrastructure of the different units supported by the project, but also the satisfaction of the respective operational and staffing needs.
- 7.2 The fact that, as a result of this project, new units will be included in the House structure and operation will require their appropriate coordination with other units already existing in the institution. This will make it possible for the House to expand its structure, staff, activities and clients while maintaining the same high standard of quality that has characterized its operation throughout the years.
- 7.3 Equally essential for this purpose will be the practice of an effective coordination between the House and the health authorities directly interested in the project, especially the Araxa Municipal Health Department and the High Paranaíba Regional Health Management Unit. It will also be necessary the House commitment to a timely allocation of its own matching funds as well as to an active mobilization of additional funding from other sources in order to meet the project financial requirements.
- 7.4 Given the fact that the JPO Fund emphasizes the funding of operational costs, the project includes the temporary financing of personnel costs for two months with resources from the JPO Fund. This measure will allow the House to allocate the resources thus saved to the partial financing of the project investment costs.

### VIII. Plan of Action

- 8.1 The project will be implemented in 18 months and disbursed in 24 months, according with the following timetable:

**Timetable of Project Implementation**

Components	Months																	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
<b>I</b>	x	x	x	x	x													
<b>II</b>				x	x	x	x	x	x	x	x	x						
<b>III</b>								x	x	x	x	x						
<b>IV</b>											x	x	x	x	x	x	x	x
<b>Evaluation</b>																x	x	x

### IX. Audit and Evaluation

- 9.1 The project final evaluation report will be produced two months after the end of the execution period. An independent consultant will be contracted to produce the evaluation report. The outcome indicators and the goals expected to be reached by the project are: (a) Increasing 10% on the attended and cured cases by pediatric and regular surgery by the House, and; (b) Reducing 20% in the waiting time to schedule regular surgeries and external consults. The process indicators will be: (a) the electronic medical records for at least 50% of the inpatients and out patients of the house were implemented and are working properly; (b) the house starts to use electronic medical protocols in the day by day management; (c) The House had developed the environment to the use of telemedicine and are linked with some other institutions that could provide these kind of services to the House; (d) At least, 120 medical and administrative staff positions of the House were trained and are able to use the new ICT procedures implemented by the house; and (e) The House had realized at least 3 public seminars with the Araxa community to disseminate the ICT innovations, specially regarding the use of the electronic medical records.
- 9.2 The project will be audited and supervised by the IDB Country Office in Brazil and will follow the Bank's rules for procurement, finance and audit reports.

### X. Recommendation

- 10.1 Andre Medici (SDS/SOC), the designated Team Leader for the project in reference, recommends the approval of this operation and the use of resources from the Japan Special Fund Poverty Reduction Program, Community Based Program (CBP), totaling up to US\$150,000, in order to finance the project.

Original signed  
Andre Medici, VPS/SPH

August 1, 2007  
Date

## XI. CERTIFICATION

- 11.1 I certify that this operation was approved for financing under the Japan Special Fund Poverty Reduction Program (JPO) through a memorandum dated December 20, 2006 and signed by Keisuke Nakamura, Deputy Manager (RE2/FSS). Also, I certify that resources from the JPO are available for up to US\$150,000 in order to finance the activities described and budgeted in this document. This certification reserves resources for the referenced project for a period of five (5) months counted from the date of signature below. Were the project not approved by the IDB within that period, the reserve of resources will be cancelled; except if a new certification is obtained. The commitment and disbursement of these resources shall be made only by the Bank in US dollars. The same currency shall be used to stipulate the remuneration defined and payments to consultants, except that local consultants working in their own borrowing member country shall have their remuneration defined and paid in the currency of that country. No resources of the Fund shall be made available to cover amounts greater than the amount certified herein above for the implementation of this T/C Funds Profile. Amounts greater than the certified amount may arise from commitments on contracts denominated in a currency other than the Fund currency, resulting in currency exchange rate differences, for which the Fund is no at risk.

**Original signed**

Carmen San Miguel, a.i.Chief  
VPC/GCM

**August 2, 2007**

Date

Vo. Bo.

**Original signed**

Goro Mutsuura  
VPC/GCM

**August 2, 2007**

Date

## XII Approval

- 12.1 The Manager of the Sustainable Development Department approves the present Technical Cooperation Brief and the use of resources equivalent to US\$150,000 from the Japan Special Fund Poverty Reduction Program, Community Based Program (CBP), in order to finance the project.

**Original signed**

Jose Luiz Lupo, COF/CBR Representative,

**August 13, 2007**

Date

### Annex 1: High Paranaíba Region in Minas Gerais State



Source: <http://www.mg.gov.br>

#### Municipalities of the High Paranaíba Region:

##### Micro-region: Araxa

**Municipalities:** Araxa, Campos Altos, Ibia, Nova Ponte, Pedrinópolis, Perdizes, Pratinha, Sacramento, Santa Juliana, Tapira

##### Micro-region: Patos de Minas

**Municipalities:** Arapua, Carmo do Paranaíba, Guimarania, Lagoa Formosa, Matutina, Patos de Minas, Rio Paranaíba, Santa Rosa da Serra, São Gotardo, Tiros

##### Micro-region: Patrocínio

**Municipalities:** Abadia dos Dourados, Coromandel, Cruzeiro da Fortaleza, Douradoquara, Estrela do Sul, Grupiara, Irai de Minas, Monte Carmelo, Patrocínio, Romaria, Serra do Salitre

## **ANNEX 2 - ICT SOLUTIONS AND HEALTH TO THE POOR**

### **Introduction**

The increasing use of Information, Communication Technology (ICT) is a key factor to guarantee better solutions, access and quality of social policies driven to the poor. It is clear that the use of ICT promotes better access to quality education and, at the same time, it improves the security of the information systems, which offer public services. In the health sector, ICT is used to assure good recording, surveillance systems and to reduce costs allowing a better combat of transmissible diseases, precise interventions for chronic diseases and better health management in hospitals and primary care services.

Despite all these progresses, there is still a lot of prejudice mixed with ignorance regarding the good effects in the use of ICT to improve health to the poor. This annex is sharing some examples about how ICT is changing the health environment and contributing to improve health systems in poor countries.

### **E-health recording is possible in the context of Bangladesh**

Health service providers are getting hyperactive windows from the blessing of cybernetic connection. Newly developed computer based gadgets are best companion for doctors along with their traditional equipment like stethoscope and thermometer in many countries. Last week 120 health practitioners were successfully trained up on ICT implications in medical science in an international course titled e-Health & Learning: Health Informatics Training Courses for Practitioners (e-HL-HIC).

After the certificate distribution ceremony, the course contact, Dr Abul Kashem Mia, professor of BUET said: "A significant contribution can come from our doctors' community in developing a database system for keeping patients' records. Our doctors and hospitals are not following updated info preserving system. They are not even habituated to keeping patients' health data in their chambers and hospitals. They give prescriptions, pathology test reports, x-ray reports and others, to the patients to preserve in their house. Eventually, many of the patients lose the records. In the developed countries doctors are obliged to keep the report in their data bank. But we are witnessing contrary scenario in this country. In the era of info-tech patients do not need files to go from one medical department to another. By entering a patient's name all concerned doctors can see her or his reports right in their chambers or hospitals. After our two successful IT projects for the doctors' community, we are watching them gradually develop positive attitude towards keeping patients records in their responsible area. Now they have realized that data based software will catapult their services as well as save some additional expenditure".

### **Health professionals in Ethiopia to get IT training**

Ethiopian Minister of Health Dr. Kebede Worku said that the government of Ethiopia is preparing a Plan for Accelerated and Sustained Development to End Poverty (PASDEP) for the next five years in which health, gender and HIV/AIDS are given emphasis.

Speaking at a Health Care Technology Management Symposium, the State Minister indicated that manpower training, construction and establishment of well equipped health facilities are targeted areas to realize access to primary health care services universally by 2009/2010.

"Ethiopian Science and Technology Agency (ESTA) and the Ministry of Education (MoE) have developed a curriculum for the training of health technology technicians (diploma and degree level) and this would be the long-term solution for the poor planning, inappropriate procurement, and poor maintenance," he added.

Ethiopian science and Technology Agency Director General Mulugeta Amha on his part said that: "the Agency, the Ministry of Health and ORBIS International, through a memorandum of understanding signed between them, have launched a project called BETTER (Biomedical, Engineers and Technical Training and Equipment Rehabilitation) project." One of the major objectives of the project is to organize clinical engineering workshop for participants drawn from the Ministry of Health, health bureaus, medial directors, heads and staff of maintenance centers and allied health professionals, he added

#### **India: Computerized registration of patients at CMCH**

The Coimbatore Medical College Hospital has computerized registration of in-patients and outpatients in five of its wings. According to the hospital officials, the irksome wait for someone to painstakingly write out the details and issue coupons is as good as over.

The State Government's assistance for computerization will now ensure the maintaining of clear records that have no ambiguity caused by poor handwriting. Besides, patient details can also be had at the click of a button. Details such as patient name, age, address, in-patient or outpatient number, the type of disease and the nature of treatment and the duration will be fed into the system by six data entry operators appointed for this purpose

A tertiary level referral unit hospital, the CMCH serves poor patients from Coimbatore, Erode and the Nilgiris districts. From writing out forms to nearly 5,000 outpatients a day that takes hours, the new system is expected to take only 30 seconds for each patient.

#### **Uganda pioneers in healthcare information system**

Uganda has become the first country in the world to be benefited from a healthcare information system that works for managing, measuring and monitoring the distribution of Anti retroviral drugs (ARVs). Harvey Stewart, the chief executive of Rocky Mountain Technology Group (RMTG), said the government approached them for a system, which can block misuse of ARVs and improve distribution and accountability to donors' satisfaction.

"This product, expected to be in use in Uganda by mid next year, is the most advanced and complete system in the world." Stewart said. Named ARVims Version 2.0, the system was designed by RMTG, an American technology company dealing in the development of software and services for the retail pharmacy industry. It is a product of

collaboration with Uganda's Ministry of Health, since 2003 and has been tried at Mulago, Mengo and Jinja hospitals.

Stewart said the system would enable public health officials to conveniently and accurately manage confidential information starting from when a patient registers for a program. It tracks all physician-patient conference information, monitors pharmacy inventory and produces reports for accountability and forecasting. Dr. Peter Waldron, the advisor to the RMTG president, explained that the system records periodic inventory summaries, stock usage, monthly and quarterly patient regimen and treatment trends. It also allows patients who change their places of residence during treatment to transfer between clinics because data can be transferred safely and confidentially.

"It provides other information to facilitate drug needs or usage tracking to prevent fraud as well as a number of patient demographic statistics and World Health Organization clinical stage summaries." The system was initially planned for 11 regional hospitals before it will be spread across 316 treatment facilities across the country. Ultimately, the system will improve the quality and consistency of treatment, as well as facilitate the management and effective use of medical resources. The Ministry of Health will also be in position to use clinical information to avoid 'stock outs' and other issues of procurement.