Republic of Angola

Project for Improvement of Josina Machel Hospital

External Evaluator: Yasuhiro Hiruma
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1. Project Profile

Location of the project site

Full view of the hospital

1.1 Project Background

The situation in Angola had long been unstable because of the Angolan War of Independence (1961 – 1975) and the subsequent civil war (1975 – 2002). After the ceasefire in the civil war in 2002, signs of stabilization started emerging. Because of the wars and subsequent reconstruction, health facilities in the country had not been maintained properly for more than 20 years. The lack of proper maintenance had resulted in dilapidation of health facilities and equipment, which, in combination with a shortage of medical supplies, made it impossible to provide sufficient health care for a long time. Moreover, the referral system in the public health facilities was barely functioning, with the exception of some specialized medical services and emergency outpatient services. Relatively wealthy people could afford to receive secondary and tertiary health care services at private hospitals. However, because people in the medium- to low-income brackets could not afford such services, it was almost impossible for them to receive the necessary treatment even when they were in a serious condition.

In order to improve this situation, the Government of Japan implemented a grant aid project, the "Project for Improvement of Medical Equipment in Primary Health Facilities in Luanda Province," at 27 health centers responsible for primary health facilities in Luanda Province in 2000. The EU also provided assistance for improvement of health facilities in Luanda Province from around 1998 to 2000. However, the assistance was limited to strengthening of primary health care at health center level.

However, since upgrading of not only primary health care but also health care at the higher secondary and tertiary levels is essential for improvement of the quality of health care, the

Government of Angola gave the highest priority to improvement of the core hospitals in the "Five-Year Health Development Plan (2000 – 2004)" and, in order to realize the improvement, planned reconstruction and repair of Josina Machel Hospital in Luanda Province, the largest and best national general hospital in Angola, and upgrading of its medical equipment. However, since a large proportion of the national budget was spent on reconstruction of the nation after the civil war, the budget in the health sector was direly insufficient. The facilities and equipment of Josina Machel Hospital, the oldest hospital in Angola, which was built 120 years ago, were too old and too dilapidated and the scale of the facilities was too large for the government of Angola to reconstruct/repair the existing facilities by its own efforts alone. In consideration of such circumstances, it was decided to implement this Project as a response to this health crisis.

1.2 Outline of the Project

The objective of the implementation of this Project was to improve the quantity and quality of health services not only in Luanda Province but also throughout Angola by restoring the functions of Josina Machel Hospital in Luanda Province as the top-referral health facility in Angola, through reconstruction/repair of the facilities and procurement of medical equipment.

Grant limit in E/N / Grant provided		(Phase I) 1,136 / 1,095.3 million yen (Phase II) 2,847 / 2,803.99 million yen
Date of E/N Signing		(Phase I) July 2002 (Phase II) May 2003
Local Implementing Agency		Ministry of Health, Republic of Angola
Completion Dates		(Phase I) March 2004 (Phase II) August 2005
Contractors	Construction and procurement	Repair of facilities (Phases I and II) Nishimatsu Construction Co., Ltd. Procurement of equipment (Phase II) Toyota Tsusho Corporation
	Consulting Services	(Phase I) Nihon Sekkei, Inc. (Phase II) Nihon Sekkei, Inc. and Earl Consultants Incorporated (joint venture)
Basic Design Study		July to August 2001
Detailed Design Study		(Phase I) January – February 2002 (Phase II) July 2002 – January 2004
Related Cooperation (if any)		Technical cooperation: Training for capacity building at Josina Machel Hospital in Angola (2007 - 2009) Grant Aid: Improvement of Medical equipment for Josina Machel Hospital (1996)

2. Outline of the Survey

2.1 External Evaluator

Yasuhiro Hiruma (International Techno Center Co., Ltd. - INTER-TECHNO)

2.2 Survey Period

For this ex-post evaluation, surveys were implemented as described below:

Survey period: December 2009 – September 2010

Field Surveys: February 4th – March 15th and April 18th – May 12th, 2010

2.3 Restrictions on Evaluation

No particular restrictions were experienced during the implementation of the surveys.

3. Evaluation Results (rating: B)

3.1 Relevance (rating: a)

3.1.1 Consistency with Development Policies

Improvement of the core hospitals was considered the highest priority issue in the ”Five-Year Health Development Plan (2000 – 2004)” of the Government of Angola and repair/reconstruction of the health facilities, improvement of the equipment and modernization of the core hospitals were mentioned in the “Strategic Plan (2007 – 2009)” of the Ministry of Health (MOH) of Angola. The modernization of the core hospitals through repair/reconstruction of the health facilities and improvement of the equipment, as well as improvement of the health services and human resource development in the health sector, are mentioned in the current “Strategic Plan (2009 – 2011)” of MOH. Since the policies had not been revised significantly by the time of the ex-post evaluation, the implementation of this Project was consistent with the policies of the Government of Angola both at the design stage and at the time of the ex-post evaluation.

3.1.2 Consistency with Development Needs

The number of patients in Josina Machel Hospital has increased at an average annual rate of 12% for four years. While malaria, diarrheal diseases and respiratory infections account for a large proportion of the cases, cases of tuberculosis, meningitis and tetanus have been on the increase.

Before the repair, the facilities in the hospital were old and in a dilapidated condition. The traffic lines of outpatients were disorganized because of the complicated design of the hospital facilities. Frequent problems such as rain water leakage in the inpatient wards caused by their dilapidated condition forced the hospital to put restrictions on hospitalization. Meanwhile, a shortage of medical equipment and dilapidation of old equipment resulted in deterioration of the quality of diagnosis and treatment.

The price index calculated with the price in the base year 2000 normalized to 100 exceeded 210 in 2001. As inflation continued, the price index for 2009 was close to 2,000. Angola has to import a large proportion of medical supplies and equipment. As importation of goods is significantly affected by fluctuations in the foreign exchange rate and economic conditions, procurement of supplies and equipment has been unstable. Since both the economy and health care were in a severe condition in Angola during the entire period between the pre-implementation stage and the time of the evaluation,

the implementation of this Project was consistent with the development needs of the recipient country.

3.1.3 Consistency with ODA Policy of Japan

In the Japan-Angola Economic Cooperation Policy Consultation held in August 2006, agreement was reached on assistance in the health sector (human resource development and measures against infectious diseases) as part of the reconstruction assistance to Angola in the ODA policy of Japan.

Technical cooperation in the health sector with Angola and other countries is implemented under the Japan-Brazil Partnership Program (JBPP). These facts show that this project was highly consistent with the ODA policy of Japan.

It is considered that the relevance of the implementation of this Project was high on the basis that the above-mentioned facts proved that the implementation was fully consistent with the development policies and development needs of Angola and the ODA policy of Japan.

3.2 Efficiency (Rating: b)

3.2.1 Outputs

Facility reconstruction/repair and equipment procurement included in Phases I and II of this Project were as follows:

- Phase I

	Plan	Actual	Difference
Facility construction	Reconstruction of existing facilities: machine building, generator system, electric room building, elevators and connecting corridor skeleton Repairs: Interior and exterior finish of West Wing of B Block, West Wing of C Block, East Wing of D Block and East and West Wings of E Block	Reconstruction of existing facilities: machine building, generator system, electric room building, elevators and connecting corridor skeleton Repairs: Interior and exterior finish of West Wing of B Block, West Wing of C Block, East Wing of D Block and East and West Wings of E Block	None
Soft component	Technical training in maintenance of electric room and boiler room handed over to the Angolan side during Phase I and basic training in preparation of medical statistics and equipment lists	Technical training in maintenance of electric room and boiler room handed over to the Angolan side during Phase I and basic training in preparation of medical statistics and equipment lists	None

- Phase II

	Plan	Actual	Difference
Facility construction	Facility construction: Libraries, Central Supply, Outpatient Department and Central Laboratory Departments, blood bank, slope building, incinerator building, service corridor, landscaping work, electrical work, air-conditioning, water supply and sewage work Facility repair: Interior and exterior finish of A, G and H Buildings	Facility construction: Libraries, Central Supply and Sterilization Department, Outpatient and Central Laboratory Departments, blood bank, slope building, incinerator building, service corridor, landscaping work, electrical work, air-conditioning, water supply and sewage work Facility repair: Interior and exterior finish of A, G and H Buildings	None
Equipment procurement	Operating table, patient monitor, Anesthesia apparatus, respirator, autoclave, various operating apparatus, inhaler, slit lamp, microscope for ophthalmic operations, dental treatment unit, infant incubator, endoscopes, radiography equipment, ultrasound scanner, refrigerator for blood storage, binocular microscope, etc.	Operating table, patient monitor, Anesthesia apparatus, respirator, autoclave, various operating apparatus, inhaler, slit lamp, microscope for ophthalmic operations, dental treatment unit, infant incubator, endoscopes, radiography equipment, ultrasound scanner, refrigerator for blood storage, binocular microscope, etc.	None
Soft component	Technical training in maintenance of Central Consultation Block, kitchen and laundry in G Block handed over to the Angolan side during Phase II and basic training in preparation of medical statistics and equipment lists	Technical training in maintenance of Central Consultation Block, kitchen and laundry in G Block handed over to the Angolan side during Phase II and basic training in preparation of medical statistics and equipment lists	None

Repair/extension of the facilities and procurement of medical equipment in Phases I and II were implemented as planned. Both the facilities and equipment are being fully utilized. The facility improvement has made the movement of patients and transport of materials and equipment easier than before.

Because the procured equipment was for the replacement of old and dilapidated equipment or to supplement the existing equipment, the medical personnel at the hospital were familiar with operation of most of the newly-procured equipment. Therefore, the procured equipment is being used without operational problems and has fulfilled the diagnostic and treatment purposes.

The Soft Component (technical training) implemented by the consultant was effective in Angola where there are few opportunities for technical education. However, maintenance and sustenance of the technologies and systems learned in the Project will require follow-up activities such as continuous voluntary study meetings of the workers concerned.

3.2.2 Project Period

The planned project period of this Project was 38 months from July 2002 to August 2005. However, delay in customs clearance of the imported materials during Phase I and the breakdown of the only cement plant in Angola during Phase II resulted in a one-month delay, which made the actual project period 39 months (ca. 103% of the planned period) from July 2002 to September 2005.

In order to minimize the delay in the project period, the contractor of the Project, a construction company, took such measures as i) appealing to the customs authorities to speed up the clearance process when clearance of the imported goods was delayed, and ii) making efforts to ensure the supply of cement which had been in short supply

3.2.3 Project Costs

While the planned project costs (Phases I and II combined) were 4,076 million yen, the actual costs were 3,961 million yen, ca. 3% less than the planned costs. The planned and actual costs borne by the Japanese side were 4,013 million yen and 3,898 million yen, respectively, while both the planned and actual costs borne by the Angolan side were 63 million yen.

Project costs	Plan (million yen)			Actual (million yen)			Actual/plan
	Phase I	Phase II	Total	Phase I	Phase II	Total	
Japanese side	1,121	2,892	4,013	1,095	2,803	3,898	97%
Construction costs	956	2,298	3,524	933	2,230	3,163	89%
Equipment procurement costs	0	275	275	0	264	264	96%
Consulting service costs	165	319	484	162	309	471	97%
Angolan side (Associated costs, *e.g.* cost of trans locating the existing equipment)	63			63			100%

As mentioned above, although the actual project implementation costs were less than planned, the actual project period exceeded the planned period slightly. Therefore, the efficiency of the project is considered moderate.

3.3 Effectiveness (Rating: a)

3.3.1 Quantitative Effects

The objective of the implementation of this Project was to upgrade the health services in the target area and throughout Angola through improvement of the health services at Josina Machel Hospital by the extension and repair of facilities and replacement of medical equipment.

3.3.1.1 Indicators of Hospital Operation

At the basic design stage of this Project, the following indicators of hospital operation were established in order to verify the effectiveness of the Project:

1) number of beds in the wards, 2) bed occupancy rate, 3) number of referred patients, 4) annual number of outpatients treated, 5) number of laboratory tests, 6) number of surgical operations, 7) number of residents, 8) number of medical students, 9) number of medical staff trained, 10) number of ophthalmic patients, 11) number of X-ray examinations, 12) number of dental patients and 13) number of transferred patients.

The table below shows the changes in each of the established indicators:

Indicator (unit)	Standard figure (at the design stage - 2002)	Actual figure (one year after completion – 2006)	At the time of Phase I ex-post evaluation (2007)	Actual figure (2010)
1) Number of beds in the wards	400	423	575	534
2) Bed occupancy rate	79.1%	90.52%	88.5%	86.68%
3) Number of referred patients	2,854	No response	6,990	No response
4) Annual number of outpatients treated	84,841	10,914	85,393	48,579
5) Number of laboratory tests	41,637	125,575	206,131	157,527
6) Number of surgical operations	10,341	7,952	11,718	16,448
7) Number of residents trained in the hospital	N/A	No response	216	No response
8) Number of medical students trained in the hospital	N/A	No response	420	19
9) Number of medical staff trained in the hospital	N/A	No response	2,258	127
10) Number of ophthalmic patients	N/A	1,636	6,316	5,431
11) Number of X-ray examinations	N/A	15,896	32,215	34,615
12) Number of dental patients	N/A	848	2,632	2,762
13) Number of transferred patients	N/A	No response	3,456	28,265

A comparison of the standard figures and the actual figures at the time of the survey in 2010 reveals an increase in all the indicators except 4) annual number of patients treated, 8) number of medical students, 9) number of medical staff trained and 10) number of ophthalmic patients. Of these indicators, the annual number of outpatients treated in 2007 is twice as many as the corresponding figure in 2010 because it includes the number of people who had laboratory tests (see below).

The number of laboratory tests in 2007 is greater than the corresponding figure in 2010 because of a temporary increase in the number of tests caused by insufficient distribution of reagents for laboratory tests to health centers, which forced Josina Machel Hospital to perform tests which should have been performed at these health centers.

In the survey in 2007, an increase from the standard figures was confirmed in several indicators established at the basic design stage. However, when a similar confirmation of the indicators was attempted in this ex-post evaluation, a simple comparison of the figures for some indicators was found to be impossible because of differences in data collection methods.

Meanwhile, because of the large differences in the numbers of 7) residents, 8) medical students and 9) medical staff trained at the hospital, an effort was made to obtain accurate figures for these indicators. However, the effort proved to be fruitless because the relevant data had been lost. The staff at the statistics department could not confirm the figures because these figures were not part of the medical statistics and the hospital administration did not have the figures either.

With the exception of the above mentioned indicators, almost all the indicators were found to be on the increase. Therefore, it can be concluded that the implementation of the Project has fulfilled its objectives.

3.3.2 Qualitative Effects

Questionnaire and interview surveys of ca. 60 medical personnel at Josina Machel Hospital were carried out during this ex-post evaluation. Some respondents replied that the equipment procured in this Project was easier to operate and functioned better than the old equipment and had made examinations and treatment easier. They also replied that use of the new equipment had reduced mistakes in measurement and errors in reading measurements. Some of the respondents replied that the introduction of new types of equipment which had not been available before had improved the quality of diagnosis and treatment.

As a result of the improvement of the facilities, each clinical department has its own consultation room. This improvement has reduced the number of patients going to the wrong consultation rooms and has achieved a reduction in waiting time. The renewal of the examination, treatment and diagnosis equipment has realized efficient examinations and treatment.

The observations mentioned above have led to the conclusion that the facilities constructed/repaired and the equipment procured in Phase II were sufficient for the purpose of examinations and treatment and appropriate for the technical level of the users.

The construction of the service corridor has enabled the transport of sterilized items, excreta, etc. without using the general-purpose corridor. The elimination of stairs between the operation theaters and the wards has made the transport of patients easier and the transport of meals more efficient. These are examples of the functional improvements realized by the Project.

The implementation of the Soft Component has made the medical personnel more competent technically, more aware of and more interested in maintenance and management. Although the occurrence of problems in the hospital facilities has not decreased, messages about the problems are sent to the Facility Maintenance Department and personnel in the department are able to deal with the problems. Previously, no action was taken on such problems.

In the Soft Component, assistance was provided for the preparation of documents (including a list of rules on the circulation of maintenance documents, facility and equipment inventories,

standard operation manuals for facilities and equipment, standard operation manuals for medical equipment and reports on medical statistics). At the time of the ex-post evaluation, although the format of the reports on medical statistics which the hospital had used before the project was implemented was still in use, the other formats of the documents prepared in the Soft Component were being used effectively.

The above-mentioned observations prove that the implementation of this Project has realized the effects expected in the project design in general. Therefore, the effectiveness of this project is considered high.

3.4 Impact (Indirect Effects)

3.4.1 Emergence of Impacts

It is expected the Ministry of Health will create a systematic training scheme using the outcomes of the training implemented in the Soft Component of this Project and extend it to health facilities not only in other areas of Luanda Province but also in other provinces of Angola. However, implementation of the training has been limited to some departments in Josina Machel Hospital because of budgetary restrictions and limited human resources.

3.4.2 Other Positive and Negative Impacts

Solid waste is deposited in designated containers by each department and collected and disposed of by a specialized company. Medical wastewater is treated in the wastewater neutralization plant constructed in this Project. As measures are taken in accordance with radiation protection standards, it is unlikely that the radiation generated will affect the surrounding environment.

From these facts, an absence of negative impacts has been confirmed.

3.5 Sustainability (Rating: b)

3.5.1 Operation and Maintenance/Management Systems

The maintenance engineers at the hospital repair minor problems in the medical equipment. In the case of problems in sophisticated equipment, such as radiography equipment and patient monitors, the hospital engineers only take temporary measures and the actual repairs are outsourced to the suppliers. For equipment which requires regular maintenance, such as radiography equipment, regular maintenance contracts have been concluded with the suppliers of the equipment concerned. No problems have been found with this system.

Of the hospital facilities, the electrical equipment, air-conditioning equipment, generators, boiler-related equipment and laundry equipment are maintained by a company called MICROTREND in accordance with an outsourcing contract. The engineers at the company regularly inspect the hospital facilities to check for problems and to receive reports on the condition of the equipment and facilities from the medical personnel.

The current system of outsourcing the maintenance/management of the hospital facilities presents no problem at the moment. However, as preparation for unexpected events and as a supervisor of the outsourced services, it is necessary for the personnel in the facility maintenance department of the hospital to accompany the engineers from MICROTREND and observe the actual maintenance work in order to develop their own technical capabilities.

3.5.2 Operation and Maintenance/Management Technologies

The founder of MICROTREND which is responsible for facility maintenance in the hospital was in charge of various works (including piping, wiring and air-conditioning) during the execution of this Project and received the operation manuals and maintenance manuals from the construction companies and equipment suppliers upon completion of the execution. Therefore, he is quite familiar with the hospital facilities. The company has the technical capacity required for the maintenance/management of the hospital facilities.

The three personnel in the Medical Equipment Maintenance Department of the hospital have participated in JICA training in Japan, two in 2008 and one in 2009, and have mastered basic maintenance/management technologies. Therefore, they are able to handle minor problems in the equipment. Repair of equipment beyond their technical capabilities is outsourced to the sales agents of the medical equipment in Luanda.

However, the agents cannot repair the equipment of manufacturers whose products they have never sold. Some of the agents of the procured equipment have already gone out of business. Therefore, it is feared that the number of equipment items which cannot be maintained and repaired by agents may increase in future.

In the training implemented in July and August 2008 under JBPP[1], training in preventive maintenance/management and points requiring attention in daily handling was provided to ca. 65 medical personnel from the hospital and health centers nearby. Several nurses interviewed confirmed that they were paying more attention to the handling of equipment than before.

Four personnel (in charge of facility maintenance/management, equipment maintenance/ management, laundry and kitchen equipment) who participated in the Soft Component were interviewed in this survey. They said that the guidance provided in the Soft Component was useful in their current work. They said that the implementation of department-specific training, such as technical training in the maintenance/management of the electricity room and boiler room, basic training in the preparation of medical statistics and equipment lists and technical training in the maintenance/management of the Central Clinic Block and the kitchen and laundry in G Block, was useful. In this survey, it was confirmed that, of the 61 personnel who participated in the Soft Component, all but one, who has retired after reaching retirement age, were still working at the hospital.

[1] In recent years, Brazil has increasingly been involved in south-south cooperation with countries in Latin America and Portuguese-speaking countries. Therefore, it has been decided that the Japanese and Brazilian authorities jointly implement JBPP under the framework of Third Country Development Assistance

Some of the outcomes of the Soft Component implemented in this Project may not be established in a short time. Continuous implementation of similar training by the hospital itself is required.

3.5.3 Financial Condition of Operation and Maintenance/Management

Josina Machel Hospital is a national hospital at the highest level of the health care referral system in Angola. As it is the best health care institution in the country, it has a certain amount of revenue guaranteed by the national government and has the full support of the Ministry of Health. Therefore, the hospital does not have any financial problems.

The total budget of the hospital in FY 2009 is 3,244,483, 831.00 Kz, which is sufficient to pay all operational expenses.

The tables below show the changes in the budget of the hospital from 2005 to 2009 and the breakdown of the budget for 2009.

Changes in the amount of the budget by fiscal year (in thousand Kz)

Fiscal year	2005	2006	2007	2008	2009
Amount [in thousand Kz]	1,063,155	1,493,587	1,840,029	No data	3,244,483

Source: Ministry of Health, Angola

Breakdown of the budget for 2009

Item	Amount (in thousand Kz)
Annual operation costs (equipment,facilities, medical supplies and equipment, etc.)	1,974,199
Personnel costs	1,249,390
Others	20,839
Total	3,244,428

Source: Ministry of Health, Angola

3.5.4 State of Operation and Maintenance/Management

Medical facilities, such as the electricity room, machine room, boilers, air-conditioning and laundry, are well maintained by the contractor, MICROTREND.

Meanwhile, a problem has emerged in the maintenance of the medical equipment. While spare parts of certain medical equipment, such as the radiography equipment, can be procured from the agents which have a maintenance contract with the hospital, it has become difficult to procure spare parts for some of the other types of equipment (including infrared lamps, dental equipment and ophthalmic equipment) because the suppliers have closed down. Since only limited types of spare parts are available in the domestic market, it will be necessary for the hospital or the Ministry of Health to take the lead in efforts to explore new procurement routes. It will also be necessary to formulate a long-term plan for renewal and procurement of the equipment as the condition of the equipment will deteriorate with wear and tear resulting from use.

In the Administration Block and the preparation room in the Operation Block where this project

has not been implemented, rainwater seeped through the joints between the roofing tiles and the walls and into the plaster of the ceiling materials. As the result, the extra weight of the ceiling materials caused them to fall from the ceiling. The fallen ceiling materials are obstructing work in these places. Although this problem has no direct link with this project implemented with support from the Japanese side, it is feared that similar problems will occur sooner or later in the blocks where this project was implemented, since all the blocks have the same roof structure.

Technically, reconstruction, instead of repair of the existing facilities, should be implemented in order to solve this type of problem. However, the Angolan side requested "repair" because Josina Machel Hospital, which was built more than 120 years ago, is an important historical monument in Angola. The hospital is aware that the problem caused by the rainwater is to be solved by the Angolan side and is struggling to find a way to do so.

The observations mentioned above show the existence of minor problems in the maintenance/management system and in technology. Therefore, the sustainability of the effects realized by this project is considered moderate.

4. Conclusion, Lessons Learned and Recommendations

4.1 Conclusion

Despite the problems found in efficiency and slight problems in sustainability of the maintenance system and technology, it can be concluded from the observations mentioned above that the rating of the implementation of this project, as a whole, is high (B).

4.2 Recommendations

4.2.1 Recommendations to the Local Implementing Agency

- Supervision of maintenance/management services

  Josina Machel Hospital depends heavily on outsourced services for the maintenance/management of its facilities. Some of the maintenance works are entirely entrusted to contractors. There is a need for the personnel in the maintenance/management department of the hospital to observe the work conducted by the contractors in order to ensure the appropriateness of the work when a contractor has been restructured or a new contractor has been employed. From the viewpoint of breaking away from total dependence on outsourced companies for maintenance, witnessing the maintenance work conducted by the contractors is recommended to the maintenance personnel for the improvement of their technical capabilities.

- Formulation of long-term equipment procurement plans

  Since a lot of equipment was procured in this project, much of the equipment owned by the hospital is relatively new. However, even if the equipment is used with due care, its expected lifetime is five to ten years. Therefore, the Ministry of Health and the hospital must jointly prepare

long-term (five-year and ten-year) equipment procurement plans. For example, there is a need to establish a savings scheme for the expected purchase of replacement equipment in which the annual amount of the reserves for purchase calculated by dividing the price of the existing radiography equipment by its expected lifetime is deposited in an account.

- Exploration of new procurement routes for supplies and spare parts

It is recommended that the Ministry of Health and the hospital explore ways to procure supplies and spare parts which are not readily available in the Angolan market directly from the manufacturers or agents in neighboring countries, such as South Africa.

- Implementation of in-house study meetings

Some medical personnel were employed after the implementation of the Soft Component. Others have forgotten some of what they learned in the Soft Component because they have not had the opportunity to use it for a long time. Therefore, follow-up activities, such as continuous and voluntary study meetings for the personnel concerned, are required.

4.2.2 Recommendations to JICA

N/A

4.3 Lessons Learned

Implementation of the Soft Component is an effective way to ensure long-term use of facilities and equipment in countries like Angola where medical personnel usually have few opportunities for technical training. It is recommended that use of the Soft Component should be promoted in projects in countries in a similar situation for the purpose of enhancing the effects of the projects, with requests from recipient countries examined thoroughly during the project design. When designing Soft Component, it is necessary to consider matters related to use, maintenance/management and operation of facilities and equipment to be procured in a project and the minimum technical standards required for the achievement of high project effect in the formulation of a training plan

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Comment on this Project from Specialist

Project of Improvement of the Hospital Josina Machel in the Republic of Angola

After long years of deterioration, the government of Angola together with Japan International Cooperation Agency (JICA), it did not save efforts to restore the Hospital Josina Machel, one of the greaters of the country. Such union had for main objective, to optimize the functioning of the sections, being aimed at to present better services to the patients.

This project was divided in 2 phases. Phase 1 aimed at the remodeling of the areas and the infrastructure reconstruction (basic sanitation, water supply, substitution of the electricity). Phase 2 had a goal for, the reconstruction of new areas (morgue, kitchen, laundry, Diagnostic imaging, central office of sterilization, etc), as well as the equipment installation.

As main positive points of this project, I detach:

1. Reduction of infection rate at the hospital
2. Environments with adequate conditions of work
3. Increase of the capacity of consultations, internment and accomplishment of examinations
4. Incentive the continuous formation of professionals
5. Available equipments of high technology
6. Improvement in the quality of the attendance to the patient

As negative point, I cite the equipment existence available for this project, that had become obsolete due to hand of specialized workmanship to operate them, as well as, to give maintenance. Qualifications had been given to the employees, but the same ones still feel lack of this type of knowledge.

Angola is very rich in natural resources, possessing one of the biggest reserves of oil and natural gas of the planet, what it makes with that its economy presents good taxes of evolution, supported mainly for its exportations. In the sector of the civil construction it has tried a great growth, and it is currently responsible for 29% of the external investments in the country. Although this, is presented today as one of the countries with the worse pointers of health of the world, with high indices of infantile mortality and great dissemination of transmissible illnesses. The great social differences favor the occurrence of epidemics and the increase of endemic illnesses. Factors as drinking waters scarcity, lack of basic sanitation, limited access to the health services, bud nutrition, etc., are part of the daily one of the great majority of the population.

Projects that aim at the rehabilitation and the improvement of medical services, are important actions in the search for taking health with quality for all the individuals. To characterize professionals and to give appropriate conditions to them of work are basic steps to reach this objective. The modernization is a continuous process.

Congratulations to the Governments Japanese and Angolan for this initiative, and I wait that investments in this area are new facts.

Comment by Ms. ***Ana Flavia de Amorim Feitoza***

Analyst of Systems, formed in Computer science, Brazilian, liveing has 5 years in Luanda. She works with Systems of Hospital Management since of July/2000. She participated of some projects of public and private computerization. Currently consulting with the Project of Computerization of the Public Hospitals of Angola.