conducted by Balkan Office (May 2014)

| Country Name          |  |
|-----------------------|--|
| Former Yugoslav       | The Project for Improvement of Medical Equipment for Primary Health Care Services (Phase II) |
| Republic of Macedonia |  |

I. Proiect Outline

| I. Project Outline        |  |  |   |  |  |  |  |
|---------------------------|--|--|---|--|--|--|--|
| Project Cost              | E/N Grant Limit: 810 million yen Contract Amount: 545 million yen  |  |   |  |  |  |  |
| E/N Date                  | June 2006  |  |   |  |  |  |  |
| Completion Date           | February 2008  |  |   |  |  |  |  |
| Implementing<br>Agency    | Ministry of Health   |  |   |  |  |  |  |
| Related Studies           | Basic Design Stu   | dy: July 2005 to January 2006  |   |  |  |  |  |
| O to to - d               | Consultant   | International Techno Center (  | Co., Ltd.   |  |  |  |  |
| Contracted                | Contractor   | -  |   |  |  |  |  |
| Agencies                  | Supplier   | Sojitz Corporation (Package  | 1), Sirius Corporation (Package 2).   |  |  |  |  |
| Related Projects (if any) | Japan's cooperation  The Project for Improvement of Medical Equipment for Primary Health Care Services (2000-2002) Other donors' cooperation  World Bank Health Sector Management Program  |  |   |  |  |  |  |
| Background                | From the 1970s to 2000s, the structure of causes of death among the people of Macedonia had changed greatly, and the latest issues in public healthcare included prevention and early detection and treatment of heart disease, cancer, and other lifestyle-related diseases; management of chronic illnesses; and appropriate treatment and management of general illnesses, particularly among children and the elderly. In these areas, efforts were needed to reduce the national burdens imposed by diseases.  However, since independence, unstable economic conditions in Macedonia had made the share of the national budget for health care inadequate, and there had been virtually no improvement in medical facilities and equipment. It had been particularly difficult for the Health Centers (HCs), primary healthcare providers, to secure a new budget for facilities improvement other than operating costs, and it had not been possible to replace the existing equipment.  To address these conditions, the Government of Macedonia requested the Government of Japan to provide grant aid for health sector in 1998 in order to equip 34 HCs. As a result, "The Project for Improvement of Medical Equipment for Primary Health Care Services" was implemented for 16 HCs in 2001. Thereafter, in October 2002, the Government of Macedonia drafted the aforementioned project (Phase 2) in order to equip the remaining HCs left out of Phase 1, and requested the Government of Japan for grant aid.   |  |   |  |  |  |  |
| Project<br>Objectives     | Outcome To improve the the Capital city of Output (s) Japanese side The following med Equipment (R Microscope, et Equipment (De childhood illnese Equipment (E diagnosis of ace The vehicle need Equipment need Macedonian Side Removal of existence To improve the Capital Ca | health service in primary health Skopje as well as in 16 other dical equipment was procured adiographic X-ray equipment c.) needed for general diagnost entistry unit, Dentistry X-ray Ses (Respiratory organs/ childhous (Rectrocardiograph, Ultrasonic dult illness (Heart disease/Breateded for emergency service (Reded for enhancing the sterilization) | for 17 HCs.  nt, Fluoroscopy, Spectrophotometer, Hemocytometer, sis (Radiographic/ Laboratory examination) ystem, Aspirator, Ultrasonic Nebulizer, etc.) needed for bood dentist) Nebulizer, Mammography, etc.) needed for basic ast cancer) Emergency/ Traffic Accident) ation functions (Sterilization) |  |  |  |  |

#### II. Result of the Evaluation

## Summary of the Evaluation

Health Centers (HCs) played an important role for early detection and treatment of circulatory system diseases, cancer, and chronic diseases, which were the latest health issues in Macedonia. However, due to the unstable economic conditions in Macedonia, it had been particularly difficult for the HCs to secure a new budget for facilities improvement other than operating costs, and it had not been possible to replace the existing equipment.

This project has achieved its objectives at a limited level, partly because of the Health System Reform in Macedonia which was implemented in January 2007. The project allowed more accurate diagnosis and receipt of treatment, however, the project has not achieved the expected increase of services since the number of patients has decreased due to the Health System Reform in Macedonia, by which some parts of primary healthcare services have been transferred from HCs to

private sector. As for sustainability, no problem has been observed in the technical and financial aspects. With regard to technical aspect, the know-how on equipment operation and daily examination were gained in training during the procurement process and manuals have been effectively utilized by HCs. On the other hand, the project has some problems in the institutional aspects and in the current status of operation and maintenance. While clear procedure has been established in each HC to respond to the malfunction of the equipment, there is no established plan of daily examination and maintenance. Some equipment items are broken down. For the current status of operation and maintenance, the decrease of the medical staff was observed in the course of Reform following on the change of HC's services, but the number of maintenance staff of the medical equipment has not significantly changed from the time of ex-ante evaluation.

For relevance, the project is partially inconsistent with Macedonia's development needs at the time of ex-post evaluation. For efficiency, the project period exceeded the plan.

In the light of above, this project is evaluated to be unsatisfactory.

#### 1 Relevance

This project has been relevant with Macedonia's development policy (Renewal of health facilities and equipment is deemed an urgent issue as set in Public Investment Plan 2005-2007 and Public Investment Programme 2009-2011) and Japan's ODA policy (to provide assistance for equipment and facilities for the health sector) at the time of both ex-ante evaluation and ex-post evaluation. It is partially irrelevant with development needs (improvement of medical equipment for HCs as primary healthcare facilities) at the time of ex-post evaluation. The reason is that some parts of primary healthcare were privatized in a course of the Health System Reform implemented in January 2007 and HCs do not basically provide those services at the time of ex-post evaluation.

Therefore, its relevance is fair.

#### 2 Effectiveness/Impact

This project has achieved its objectives at a limited level. The project allowed more accurate diagnosis and receipt of treatment at each targeted HC in each region and therefore the quality of healthcare services were improved to some extent. However, the project has not achieved the expected quantity of services since the number of total patients treated in HCs has decreased in general, due to the Health System Reform and privatization of several primary healthcare services as mentioned above. Currently, the HCs still carry out some of examinations in their facilities in the areas of preventive healthcare, emergency assistance and home treatment for primary healthcare, and specialist – consultation examination at secondary level (those who are referred from the private primary healthcare physicians to the HCs), therefore the equipment procured by the project is still in use.

As for impact, since detailed information was not obtained and due to the privatization of primary health care services in Macedonia, it is very difficult to judge how the project contributed to the improvement of the referral system. As for impact on natural environment, 7 HCs still do not discharge X-ray liquid properly but medical waste collection and construction for radioactive exposure from x-ray has been done properly.

Since the Health System Reform and privatization became effective at the relatively early stage of the project implementation (January 2007), each HC shifted to the preventive service and was required to meet different health service needs at the time of ex-ante evaluation.

Therefore its effectiveness/impact is low.

#### Quantitative Effects

| Quantitative Effects               |                   |                    |                   |                         |                     |  |  |  |
|------------------------------------|-------------------|--------------------|-------------------|-------------------------|---------------------|--|--|--|
|                                    | 2005 Actual Value | 2007 Planned Value | 2007 Actual Value | 2011 Actual Value       | 2012 Actual Value   |  |  |  |
|                                    | (BD)              | (Target Year)      | (Target Year)     | (the latest full fiscal | (January -          |  |  |  |
|                                    |                   |                    |                   | year)                   | June)(Year of       |  |  |  |
|                                    |                   |                    |                   |                         | Ex-post Evaluation) |  |  |  |
| Indicator 1: General X-ray         | 182,608           | Increase           | 131,357           | 144,628                 | 51,124              |  |  |  |
| Photography                        |                   |                    |                   |                         |                     |  |  |  |
| Indicator 2: OB/GYN                | 361,698           | Increase           | 6,499             | 6,136                   | 2,754               |  |  |  |
| department ultrasonic wave         |                   |                    |                   |                         |                     |  |  |  |
| diagnosis                          |                   |                    |                   |                         |                     |  |  |  |
| Indicator 3: Abdominal             | 29,767            | Increase           | 16,434            | 21,381                  | 8,905               |  |  |  |
| ultrasonic wave diagnosis          |                   |                    |                   |                         |                     |  |  |  |
| Indicator 4:                       | 112,132           | Increase           | 70,811            | 81,854                  | 26,005              |  |  |  |
| Electrocardiography                |                   |                    |                   |                         |                     |  |  |  |
| Indicator 5: Blood test            | 1,873,702         | Increase           | 1,042,633         | 1,279,863               | 903,840             |  |  |  |
|                                    |                   |                    |                   |                         |                     |  |  |  |
| Indicator 6: Patients that visited | 2,317,488         | N/A                | 620,048           | 726,984                 | 264,253             |  |  |  |
| HCs                                |                   |                    |                   |                         |                     |  |  |  |

Source: Questionnaire was sent and collected at the time of ex-post evaluation. The data above is about the public part of the Target 17 HCs (services delivered by the privatized sections of the target HCs are not included.).

#### 3 Efficiency

Although the project cost was within the plan (ratio against the plan: 67%), the project period exceeded the plan (ratio against the plan 150%) because signing the contract with the contractor took 11 months, not 4 months as planned due to belated approval by the Macedonian side. Outputs were produced as planned. Therefore, efficiency of this project is fair.

### 4 Sustainability

The equipment provided by the project is maintained by HCs. The project has some problems in the institutional aspects and in the current status of operation and maintenance. As mentioned above, due to the Health Sector Reform, the institutional structure of the HCs has been changed to meet the shift of its function (provide the preventive services), which was not considered at the time of ex-ante evaluation. The decrease of the medical staff was observed in the course of Reform following on the change of HC's services, but the number of maintenance staff of the medical equipment has not significantly changed from the time of ex-ante evaluation. On the current status of maintenance, there is no established plan of daily examination and maintenance. Although 10 HCs have no problem on the conditions of equipment, there are breakdown of some equipment items in the rest of HCs.

However no problem has been observed in the technical and financial aspects. With regard to technical aspect, the know-how on equipment operation and daily examination were gained in training during the procurement process and manuals have been effectively utilized by HCs. In case of malfunction of the equipment, clear procedure has been established in each HC. In general, HCs have no problem in the financial aspect since most of the HCs have a revenue surplus, and the budget for maintenance expenses has been secured by almost all HCs.

In light of the above, sustainability of this project is fair.

### III. Recommendations & Lessons Learned

# Recommendations for implementing agency:

Recommendation to the HCs is to establish the plan for periodical operation and maintenance of the equipment as well as to apply the maintenance management training system.

#### **Lessons Learned to JICA**

Training during the procurement process and manuals is highly effective to maintain the procured equipment properly.



General X-ray apparatus



Ultrasound apparatus