

EDCF Vietnam Health sector Supporting Projects

Loan Agreement No. : VNM-11-2007, VNM-21-2008

Year Month Date : 2008. 03. 28 (VNM-11-2007)

2009. 05. 08 (VNM-21-2008)

Country : Vietnam

The Export-Import Bank of Korea
(Government Agency for the EDCF)

EDCF Operations Evaluation Team
(Evaluated by Korea Institute for Industrial Economics & Trade)

Summary

I . Project Outline

- The development cooperation strategy of healthcare sector in Vietnam has focused on expanding the health-related infrastructure and improving quality of healthcare service on central highland regions of the country.
 - To achieve fostering healthcare manpower, improving health system, reinforcing aid effectiveness is pursuing an aim for meeting aid satisfaction of local residents around the underdeveloped and isolated highlands where international support can scarcely reach.

- Dak Nong and Gia Lai Pleiku province which are target regions of EDCF Vietnam healthcare supporting projects are exposed to low level of healthcare circumstances compared with national average of Vietnam, which is due to geographical characteristics of central highlands region.

Based on strategic pursuit of Vietnam healthcare supporting project, EDCF has been schemed to improve healthcare accessibility and viability of the area.

- Two health sector projects in Vietnam directly affect to alleviate imbalance between supply and demand of healthcare service.
 - Indirectly, the cooperation has effect on activating local economy by preventing the loss of labor force.
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- ‘Dak Nong Provincial General Hospital’ was carried out from 2008.08.18(Loan Agreement Date) to 2009.11.30(Project Completion Date).
 - Through providing modernized medical equipment and educating technical personnel for examination and maintenance of those items,

EDCF intended to improve medical satisfaction and healthcare circumstances of general public living around Gia Nghia, Dak Nong. The project also contributes to reduce healthcare expenses of the nearby regions.

- 'Medical Equipment Supply to Pleiku General Hospital' was carried out from 2009.8.14(Effective Date of Loan Agreement) to 2010.6.16(Project Completion Date)
- Pleiku general hospital in Gia Lai province was designed to improve healthcare circumstances by supporting medical equipment, doing vocational training on personnel of the hospital, and eliminating unnecessary medical cost of those who live around the project area.

II. The Purpose and Procedure of Impact Evaluation

- This research is intended to evaluate the impact of healthcare sector aid in Vietnam generated by 'Dak Nong Provincial General Hospital' and 'Medical Equipment Supply to Pleiku General Hospital'.
- To effectively achieve the purpose of the study, impact evaluation methodology to analyze the projects' impact was developed by various ex-ante analysis such as literature review, indicator survey, statistical survey, and expert advisory interview. After ex-ante study, the evaluation delegation team conducted in-depth interviews and questionnaire to get vivid information(including quantitative data) and generate the impact logically by using the developed method during Vietnam field survey.
- Objectives of literature survey are to get qualitative and quantitative data in advance such as national development and health policies, recipient's current state and record on health sector ODA, socioeconomic index and interested parties in Vietnam.
- Considering evaluation principles, standards, procedures, and methodology of OECD/DAC, ADB, World Bank, etc., the team

developed an appropriate impact evaluation methodology which is specialized in healthcare field. Especially, for quantitative evaluation, 'specialized' model based on Difference in Differences(DID) was utilized.

- Qualitative data was collected by in-depth interviews and questionnaire from the field survey. In addition, to obtain proper evaluation results, health-related indicators and statistical materials would be gathered by interviewing parties concerned such as government officials of healthcare and aid department and statistical agency of Vietnam.
- The impact evaluation results were obtained through aggregating and rearranging information and data collected by literature survey, in-depth interviews, questionnaire, and on-site workshop(FGI).
 - Arranging all the results derived by ex-ante study and on-site survey
 - To have expert consultation process for improving the results of the impact evaluation

III. The Characteristics of the Impact Evaluation Method

- Contemplating the distinctiveness of health sector and realistic limits of the impact evaluation, beneficiary and non-beneficiary groups were classified according to project completion date. Besides, by applying multifaceted impact evaluation methodology to the groups, the impact evaluation intended to derive realistic evaluation results.
 - The questionnaire survey set up as a total of four subgroups such as doctors, nurses, medical technicians and patients at Dak Nong provincial general hospital and Pleiku city general hospital including on-site FGI respectively.
 - And then, by applying the specialized DID methods of analysis, quantitative analysis was conducted.
 - To generate net impact of medical equipment support project of EDCF, applied formula is as follows.

"the net impact of EDCF equipment support project"
= "the whole effect of supporting equipment" (-) "the effect induced by other factors" are defined.

- "The whole effect of supporting equipment" indicates level which subtracts an average of satisfaction response at the initial period from that of the current, by conducting the survey targeting those who joined the EDCF project hospital medical staffs, the inpatients and the outpatients of the hospital **Before** project completion date.
 - This figure difference is brought about not only introducing medical equipments from EDCF projects but also a change in hospital administration system, additional support from Vietnam government.
 - ※ The 5-scale satisfaction survey is conducted. The higher the score, the better satisfaction.
 - "The effect caused by other factors" indicates level which subtracts an average of satisfaction response at the initial period from that of the current, by conducting the survey targeting those who joined the EDCF project hospital medical staffs, the inpatients and the outpatients of the hospital **After** project completion date.
 - As they only experienced the impact after introduction of the medical instruments, satisfaction level difference only depends on an effect induced by 'other' factors.
 - At the on-site field survey, various materials were gained for impact evaluation by applying multifaceted evaluation methodology such as in-depth interview, question investigation, checklist response, FGI and so on.
 - The materials will be utilized not only gaining evaluation results but also constructing health sector PDM as a roadmap to evaluate similar projects in the future.
- The norm which classifies the before-and-after of the support project is the project completion date of respective projects.
- In the project completion report of each projects, the project period is defined as 'The Effective Date of Loan Agreement~At the End of the

Installation and Training of Medical Supplies」.

- It is the most desirable that the project period at Dak Nong province is considered as 「2008.08.18.~2009.11.30」. Also 2009.11 should be the basic year and month to produce net effect from Dak Nong provincial general hospital.
- It is the most desirable that the project period at Pleiku city is considered as 「2009.08.14~2010.06.16」. Also 2010.06 should be the basic year and month to produce net effect from the medical equipment supply to Pleiku general hospital.

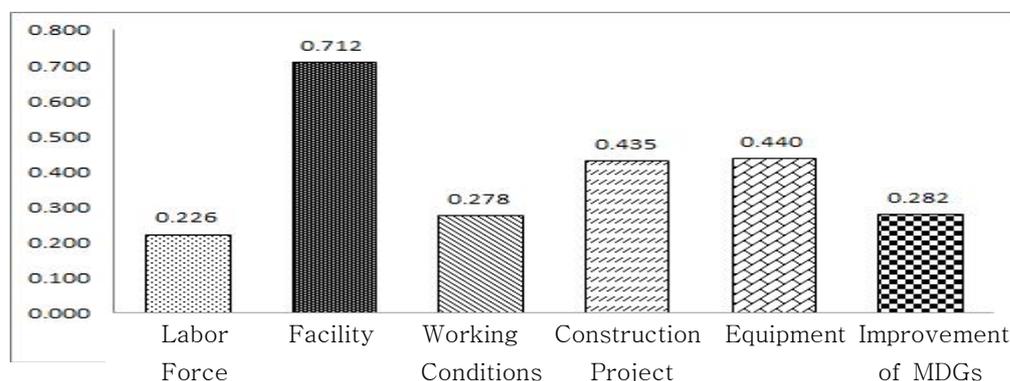
IV. The Results of Impact Evaluation

- The impact obtained from in-depth interviews at Dak Nong provincial general hospital and Pleiku city general hospital shows positive results on the whole, the necessity for improvement also similarly appears.
- In the case of patients, the results of evaluation indicate that, after EDCF project, they has experienced positive impacts such as (a)an increase in satisfaction of hospital due to quick diagnosis and treatment, (b)improvement of cost-effectiveness due to shortening duration of treatment and hospitalization, and (c)the promotion of accessibility to healthcare service.
- In the case of medical team, the results show that they experienced positive impacts of support project such as (a)reduction of duration of treatment thanks to medial equipment supplies, (b)increase in visiting patients and (c)improvement of awareness and reputation of the hospital, etc.
- The necessity for improvement commonly proposed was additional support of equipment and sustainable (ex-post) maintenance, and vocational training to improve the efficiency of equipment utilization for medical staffs.

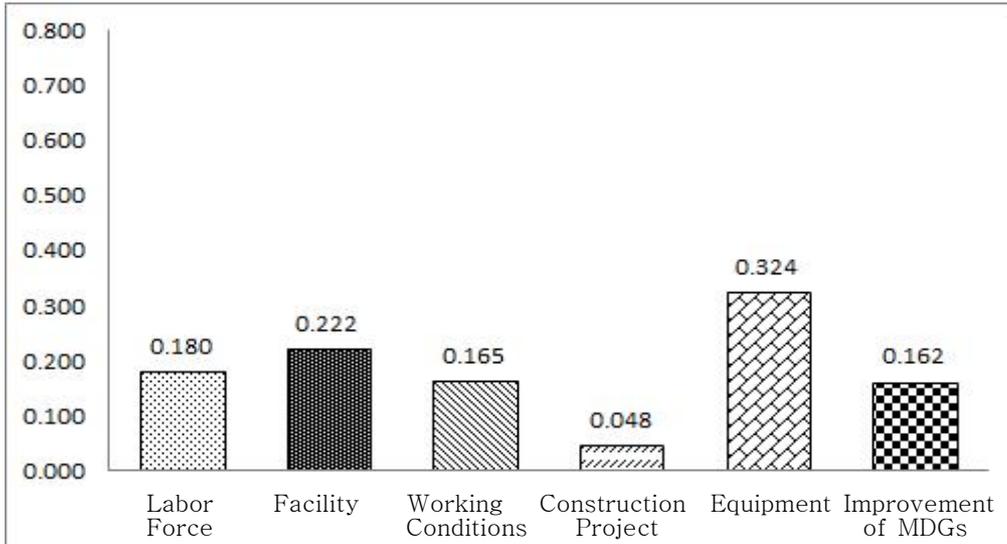
- The evaluation using questionnaire was conducted to four subgroups: doctors, nurses, medical technicians and patients.
 - For three beneficiaries of medical manpower (doctors, nurses, medical technicians), main parts of the questionnaire consist of treatment, manpower, facility, working condition, construction project and improvement of MDGs.
 - For patients, subjects of the questionnaire are the reason why they visit EDCF support hospital, satisfactory level toward doctor, nurse, facility, environmental factors, and intention of revisit and recomi
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|--------|-------------|----------|--------------------|----------------------|-------------------------------|
| recomi | Labor Force | Facility | Working Conditions | Construction Project | Equipment Improvement of MDGs |
|--------|-------------|----------|--------------------|----------------------|-------------------------------|
- In the case of Dak Nong provincial general hospital, in terms of increase in net impact caused by equipment-supplying project, most doctors and nurses regard facility, construction projects, equipments as positively influence factors on increase in hospital satisfaction.
 - The equipment supply project is evaluated that it affected positive influence on increasing overall satisfaction with the facilities and hospitals to the patients. However, the evaluation of medical technician is not high.
 - In the bar chart, the numerical increment of the satisfaction level means the improvement of impact in the long-term.

Evaluation Results of Net Impact EDCF Equipment Supply Project

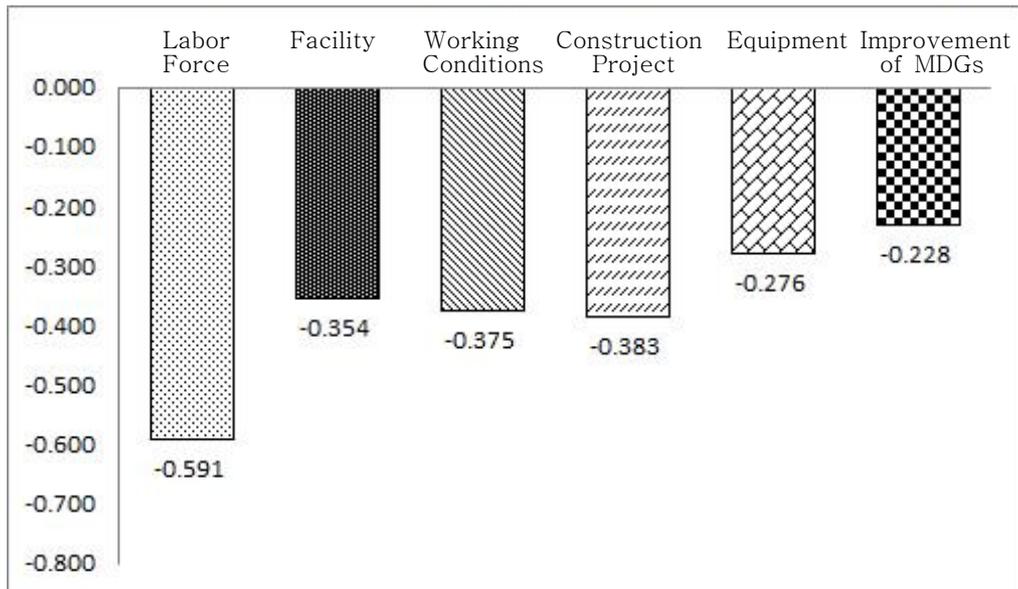
- Doctors at Dak Nong provincial general hospital-



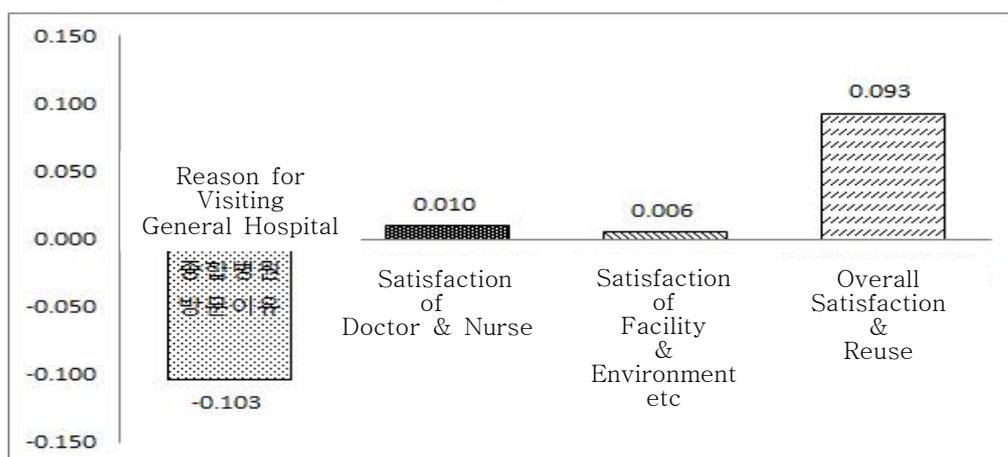
**Evaluation Results of Net Impact EDCF Equipment Supply Project
- Nurses at Dak Nong provincial general hospital-**



**Evaluation Results of Net Impact EDCF Equipment Supply Project
- Medical technicians at Dak Nong provincial general hospital-**

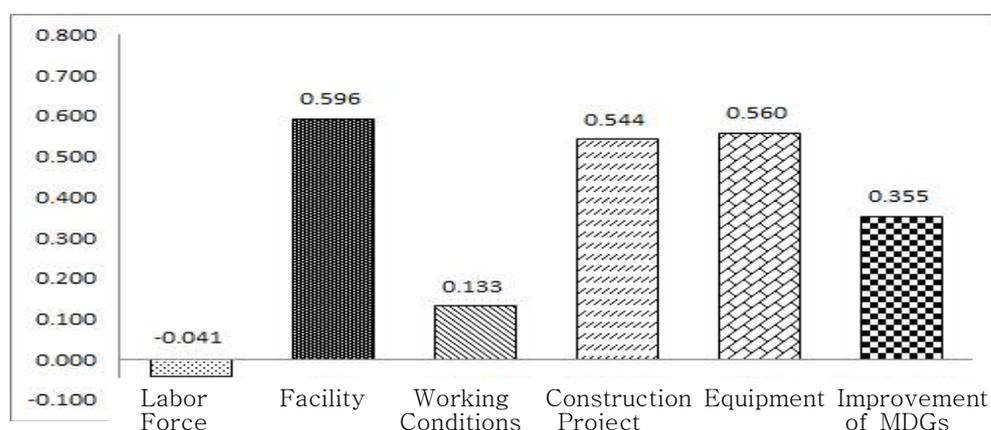


**Evaluation Results of Net Impact EDCF Equipment Supply Project
- Patients at Dak Nong provincial general hospital-**

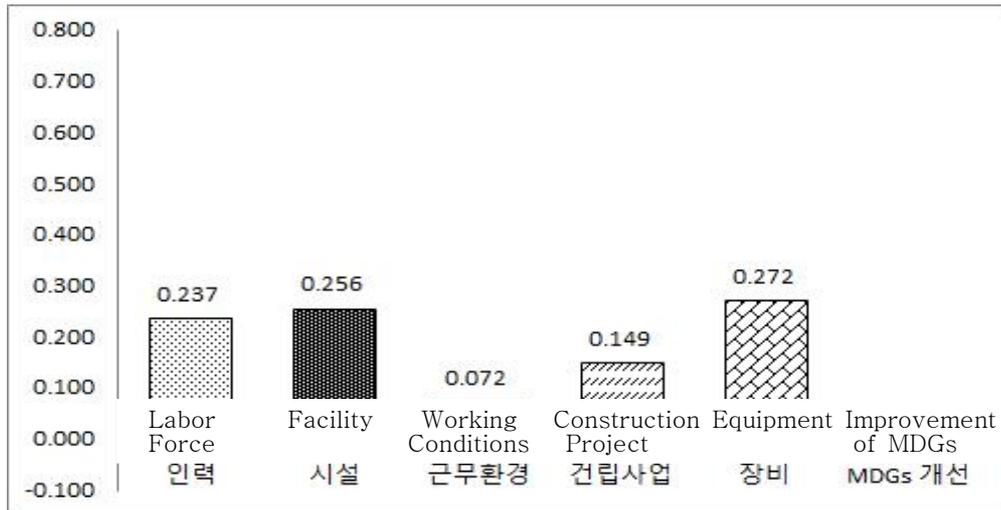


- In the case of Pleiku city provincial general hospital, in terms of increase in net impact caused by equipment-supplying project, most doctors, nurses and technicians regard manpower, facility, construction projects, equipments as positively influence factors on increase in hospital satisfaction.
- The equipment supply project is evaluated that it affected positive influence on increasing overall satisfaction with the facilities and hospitals to the patients.

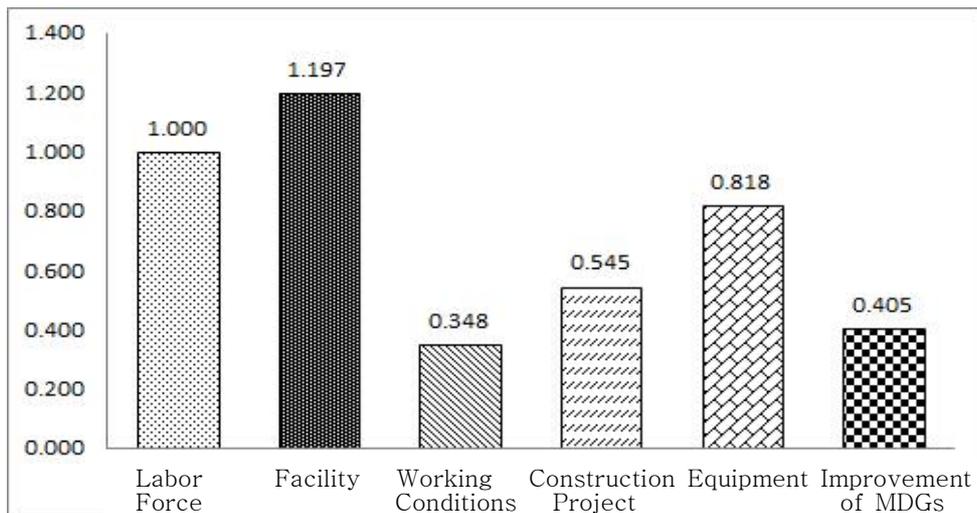
**Evaluation Results of Net Impact EDCF Equipment Supply Project
- Doctors at Pleiku city (Gia Lai) provincial general hospital-**



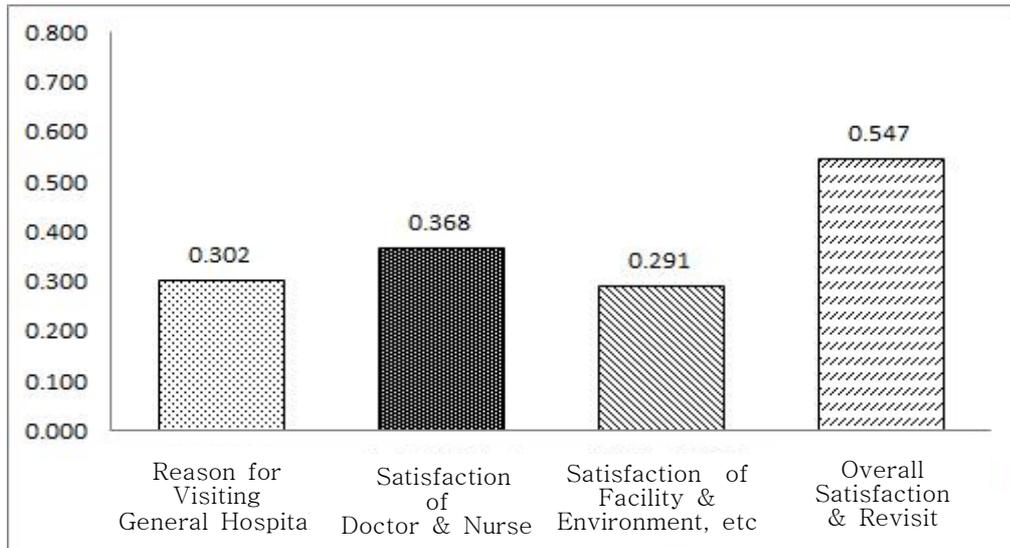
Evaluation Results of Net Impact EDCF Equipment Supply Project
 - Nurses at Pleiku city (Gia Lai) provincial general hospital-



Evaluation Results of Net Impact EDCF Equipment Supply Project
 - Medical technicians at Pleiku city (Gia Lai) provincial general hospital-

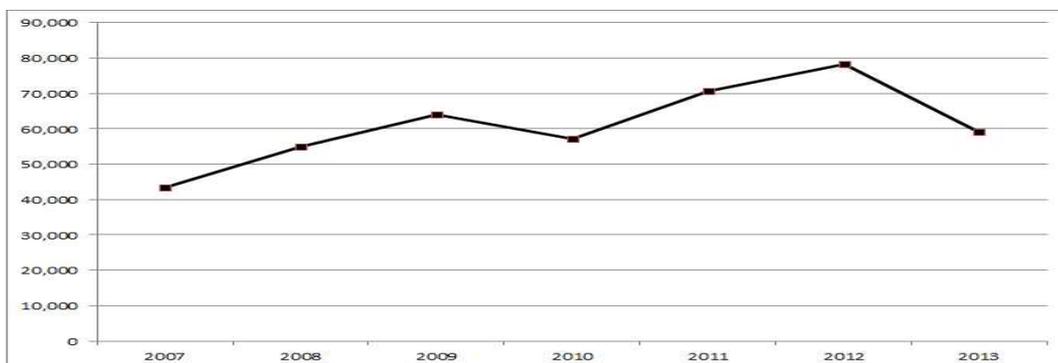


**Evaluation Results of Net Impact EDCF Equipment Supply Project
- Patients at Pleiku city (Gia Lai) provincial general hospital-**

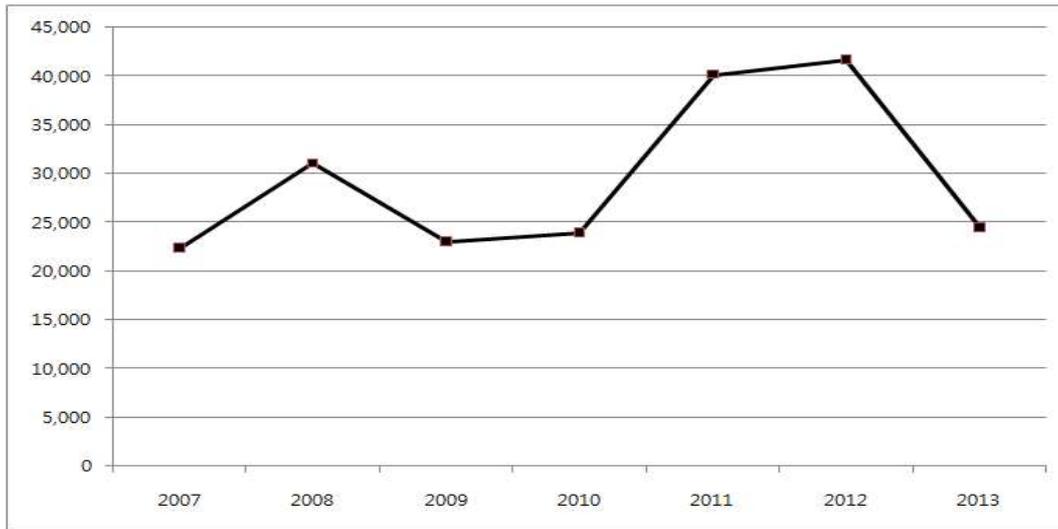


- Through checklist evaluation with time-series data, there are positive impacts such as an increase in outpatients and inpatients, contribution to decrease mortality with increased utilization of equipment performance before and after project completion date.
- In Dak Nong provincial general hospital, the number of outpatient and inpatient using medical facilities increases after going through a year of plateau in 2009 when completion time of equipment supply project.

**Utilization Trends of Outpatients by Medical Departments
in Dak Nong Provincial General Hospital(2007~2013)**

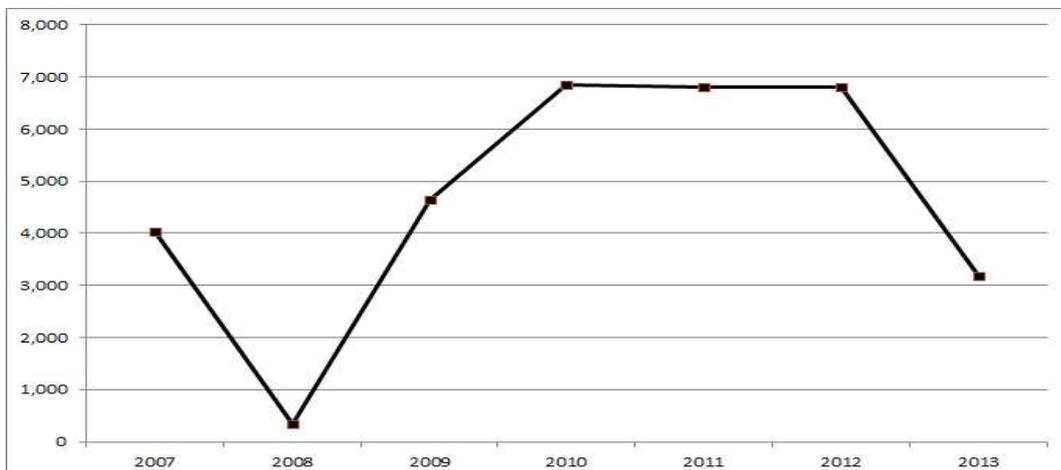


**Utilization Trends of Inpatients by Medical Departments
in Dak Nong Provincial General Hospital(2007~2013)**

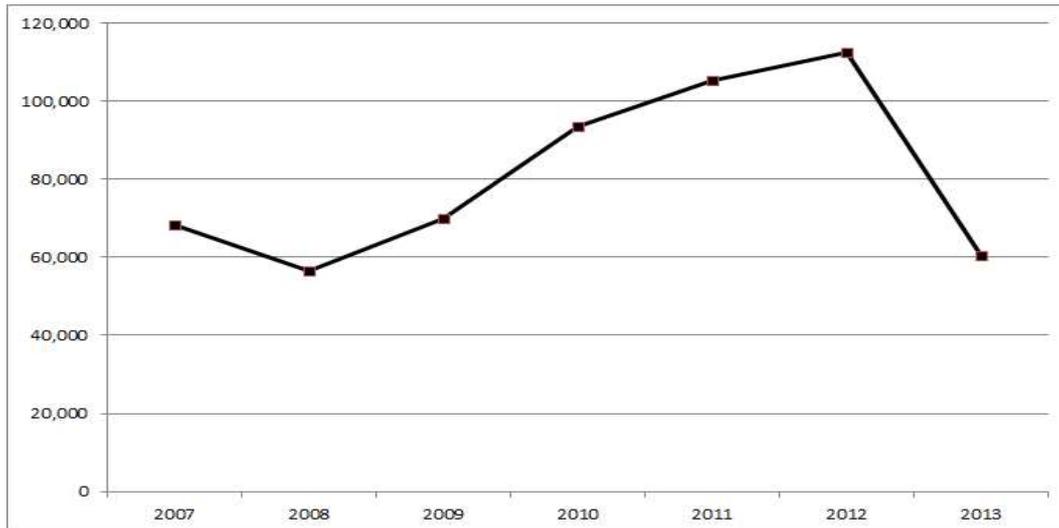


- In Pleiku city general hospital at Gia Lai province, the number of outpatients using medical facilities is stagnant for a while after increasing, whereas the number of inpatients increases consistently before and after 2010 in time of equipment supply project.

**Utilization Trends of Outpatients by Medical Departments
in Pleiku city (Gia Lai) General Hospital(2007~2013)**



**Utilization Trends of Inpatients by Medical Departments
in Pleiku city (Gia Lai) General Hospital(2007~2013)**



- In both 탁농성 and 지아라이성, the qualitative satisfaction of supported medical equipments was high, and positive impact was appeared in terms of shortening of duration of treatment, increasing of inpatients, improving of hospital awareness, increasing of satisfaction of inpatients including improvement of accessibility to health care.

- Through qualitative and quantitative evaluation methodology using in-depth interviews, questionnaire and time-series data, the positive impacts of EDCF support project and improvement of strengthening ability of human resources appear homogeneously, the robustness of multifaceted impact evaluation results in this research is established.

- Moreover, the applicability of this impact evaluation methodology is secured for further research on health care support projects.

V. Lessons and Recommendations

- For a logical and appropriate impact evaluation of a project, it is necessary to set up index(variables) to accomplish a goal of the project and stipulate the way to collect relative data at the beginning of the project for implementing predicative impact evaluation.
 - As no index and data is established, there are limitations to generate index and related statistics to identify performance of the project.
 - Thus, project strategy and data collecting activity are required to consider impact evaluation in the whole process of project planning, implementation and evaluation in further similar projects.

- In the viewpoint of project validity, it is one of the most important factors to choose a project region. In consideration of the facts that healthcare demand is higher and problems on the sector are severe in local areas, the strategy to select project area like Dak Nong and Pleiku (Gia Lai) is appropriate. Especially, as residents around project area can receive diagnosis in the local health institutions, the increase in the number of patients after EDCF support is evaluated as positive change.
 - Therefore, to maximize project impacts, consultation with recipient country has to be done considering accessibility of local residents to healthcare service and the range of beneficiaries as much as possible, when project target is selected in the future.

- Through this supporting projects, the satisfaction of medical personnel in Vietnam is very high. Additionally, the projects contribute to reducing duration of treatment through accurate diagnosis.
 - As making progress in determining the type of medical equipment, the health sector demands of local community should be reflected. Even though developing countries require medical equipments for window

dressing, the technical level of medical personnel and health related circumstances of community should be considered meticulously. In reality, as there are many cases where a lot of low cost equipments require, the proportion of providing this inexpensive examination equipment should be provided more.

- For the efficient utilization of supplied medical equipment, the effectiveness of the projects should be enhanced by implementing medical equipment operation and maintenance training courses.

- In developing countries, they are emphasizing on the training within existing workforce rather than expanding healthcare personnel. Even expensive equipments are provided, they are not fully utilized at the level of existing personnel. Moreover, operation failures due to unexperienced use are frequent and personnel cannot repair equipments by themselves.

- Sustainable management and maintenance for provided equipments are needed to strengthen the linkage between ongoing concessional loan and grant.

- The reasons why the level of positive impact of EDCF support project to medical technician of Dak Nong provincial general hospital are: the number of medical technician is fewer compared with the size of Dak Nong provincial general hospital. Also, the capability to repair and maintain faulty equipment fall behind. Moreover, the work intensity of medical technicians is increasing according to change in the number of patients by EDCF support project.

- In the case of providing equipment at certain region which has low level of healthcare environment, training for medical technicians should be strengthened in particular. Even in case of new construction or extension, hospitals should cultivate ability to manage well by providing practical medical equipments than supporting expensive ones.

- The Korean medical equipment is evaluated to have good quality and reasonable price. Providing various Korean equipment policies will be more effective rather than providing expensive surgical equipment from other countries.