Democratic Republic of the Congo

FY2016 Ex-Post Evaluation of Japanese ODA Grant Aid Project

"Le projet d'aménagement de l'institut d'enseignement médical de Kinshasa"

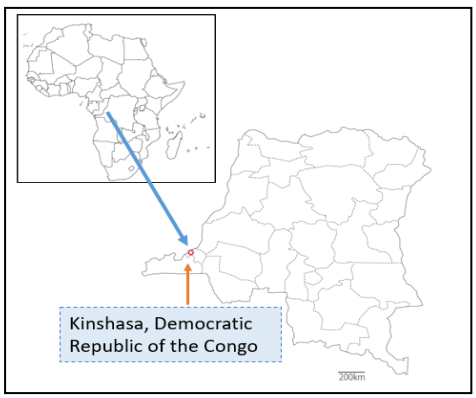
External Evaluator: Mari Nishino, Chuo Kaihatsu Corporation

0. Summary

This project was implemented for the Institute of Medical Education Kinshasa, to improve facilities and equipment devastated by conflict. As a national model school, the project aimed (1) to train high-quality secondary health human resources, (2) to develop educational model for secondary health human resource, (3) to conduct training for teachers of nationwide secondary health professional schools, and (4) to conduct continuous education for secondary health workers, contributing to their quality training, and placing them in necessary regions. This project was consistent with the development policy and needs of the Democratic Republic of the Congo and ODA policy of Japan, therefore its relevance is high. This project was implemented efficiently, and adequate to the project content planned. However, while the project cost kept within the plan, the project period was exceeded. Regarding the project effectiveness, the number of students has increased and the quality of education has been highly evaluated by external practice partners and community people so the foundation as a model school of basic education has been established. Nonetheless, the number of students from rural areas was minimal and dormitory occupancy did not achieve the target. Continuing education and dissemination of curriculum also did not reach the target value. Qualitatively, both students and teachers had satisfaction in the quality of education and the educational environment, meeting their expectations. At the time of the ex-post evaluation, there were no graduates, so it was not possible to confirm the onset of the impact. Therefore, the effectiveness and impact is fair. Institutionally and financially, there were some issues regarding the operation and maintenance of this project thus sustainability of the effect is fair.

In light of the above, this project has been evaluated to be partially satisfactory.

1. Project Description



Project Location

The Institute of Medical Education, Kinshasa

1.1 Background

Due to civil wars continued more than 10 years since 1991, health system of Democratic Republic of the Congo (DRC) has not functioned properly; Maternal mortality rate[1] (990) per 100,000 live births and under five mortality rate[2] (205) per 1,000 live births[3]. These figures were one of the worst in the world[4]. One of the main reasons is the skewed distribution of human resources for health (HRH) in terms of types of job and particular area[5]. For example, about 81 percent of health human resource was nurse and the majority worked in the western region of the country. Unlicensed schools had provided a number of low quality nurses due to the hollowed out standard of establishment of medical school formulated before starting civil wars. The Institute of Medical Education Kinshasa (IEMK: institut d'enseignement médical de Kinshasa) used to be a national leading secondary human resource training facility to develop service models and manuals for human resource development, expanding them across the other secondary schools in the country. It had four-year secondary HRH courses after graduate from junior high school for nursing, pharmacy, sanitation engineering and medical technology. It used to provide 1,000 health human resources every year before civil wars including foreign students as a pilot school of the country and neighbouring countries. However, IEMK was deprived and damaged in civil wars. The buildings and training equipment were in short, damaged and destroyed. IEMK somehow operated in a small renting room in the Kinshasa General Hospital without training equipment. For example, desks and chairs were obsolete, there were no teaching materials for practical training, there were not enough classrooms compared with the number of students, and there were many cases where classes were conducted in the corridors and outdoors. The faculty's office environment was also underdeveloped, such as lack of teachers' room and lack of teaching materials. Furthermore, because there was no dormitory for students and teachers, students from other provinces could not enter and some students and teachers had to commute more than 2 hours due to bad traffic condition. In order to remedy this situation, it was urgently needed to show nationwide models of secondary health human resource training including nurses and other occupations, as well as to construct facilities that conduct continuous education for teachers of other training schools and existing health professionals.

[1] Number of mortality among 100,000 pregnant women (number of deaths during pregnancy and less than 42 days after the end of pregnancy)
[2] The probability of a child dead by the age of five, usually expressed the number of deaths to 1,000 births.
[3] Mortality data is based on interview information at the time of the JICA preparation survey conducted in 2010.
[4] The average value of western central Africa including the Democratic Republic of Congo is the worst maternal mortality rate (1,100) and under 5 mortality rate (169) which is the worst compared with other areas (UNICEF, 2009).
[5] Information on health human resources census implemented with support of WHO etc. in 2009.

1.2 Project Outline

The objective of this project is 1) to train high-quality secondary health human resources, 2) to develop educational models for secondary HRH, 3) to conduct training for teachers of nationwide secondary health professional schools, and 4) to conduct continuous trainings for secondary HRH by provision of necessary facilities and equipment as a national model school at IEMK, thereby contributing to the allocation of HRH to necessary areas through the provision of quality HRH.

E/N Grant Limit / Actual Grant Amount	Detailed Design: 85million yen / 85million yen Construction: 1,767 million yen / 1,440 million yen
Exchange of Notes Date (/Grant Agreement Date)	Detailed Design: January 2011 (/January 2011) Construction: August 2011 (/August 2011)
Executing Agency	Infra Unit, Ministry of Infrastructure and Public Works and Ministry of Public Health
Project Completion	July 2013
Main Contractor(s)	Toda Corporation
Main Consultant(s)	Oriental Consultants Co., Ltd.
Basic Design	February 2010- December 2010
Related Projects	Technical Cooperation “Support to Human Resource Development in the health sector of DRC (PADRHS)[6]” (November 2010- November 2013) “Project for the Development of Human Resources in Health in DRC Phase 2 (PADRHS2)[7]” (January 2014- January 2018) “Technical Advisor to the Secretary General of the Ministry of Public Health” (2008-) “Expert on the Management of Basic Training Institution” (April 2014, February 2015, October 2015-October 2017) Grant Aid “le projet d'amenagement en equipements des cliniques universitaires de Kinshasa” (May 2010-April 2012)

[6] Support to Human Resource Development in health sector of DRC is called PADRHS for short.
[7] Project for the Development of Human Resources in Health in DRC Phase 2 is called PADRHS2 for short.

2. Outline of the Evaluation Study

2.1 External Evaluator

Mari Nishino, Chuo Kaihatsu Corporation[8]

2.2 Duration of Evaluation Study

This ex-post evaluation study was conducted with the following schedule.

Duration of the Study: September, 2016 - January, 2018

Duration of the Field Study: February 12 - March 4, 2017 and May 14-19, 2017

3. Results of the Evaluation (Overall Rating: C[9])

3.1 Relevance (Rating: ③[10])

3.1.1 Consistency with the Development Plan of Democratic Republic of the Congo

At the planning phase, the health sector was as one of prioritized areas by President Kabila and included in the priority development issue of "improving access to basic social services" in PRGSP[11] of 2006. The health sector strategy in PRGSP prioritized "HRH development through basic and continuous education." To achieve these goals, the Ministry of Health (MOH) of the DRC established Strategy for Strengthening Health System (SSRS) in 2006 which referred enhancement of professional HRH. Additionally, the Country Assistance Framework and the Priority Activity Plan for implementation of PRGSP set priorities in improving access of health services for the people and provision of balanced HRH.

At the ex-post evaluation phase, the health sector was included in "social service fulfilment" which was prioritized in the PRGSP2 (2011-2015). The National Health Development Plan (PNDS 2011-2015) and the National Health Human Resource Development Plan (PNDRHS 2011-2015) prioritized to strengthen health zones, namely implementation units that provided primary health care services. Secondary HRH trained by the project mainly worked in health zones directly providing health services at front lines to community people. PNDRHS targeted the improvement of both quality and quantity of HRH especially, midwife, pharmacist, medical technologist and sanitary engineer the number was small. A national law on education promoted to apply competency approach[12] (APC) to HRH education[13]. PNDRHS2 (2016-2020) targeted the development and construction of national and provincial pilot schools

[8] Reinforcement member belongs to TAC International Inc.
[9] A: Highly satisfactory, B: Satisfactory, C: Partially satisfactory, D: Unsatisfactory
[10] ③: High, ②: Fair, ①: Low
[11] Poverty Reduction and Growth Strategy Paper
[12] In the old approach (Objective approach), studying the theory for 3 years and practicing in the last year of the grade, memorization, testing, knowledge was emphasized. In the competency approach, theory, practice, theory, practice are repeated from the first year. It focuses more on how to solve the problem on the site according to the needs of the target (patients / residents). For example, a subject is on "communication skills in the community" of the first grader, and the content is also composed of French, English, communication, statistics, behavior, etc.
[13] Loi-Cadre no. 14/004 de l 'Enseignement National

need to apply APC based on people's needs. In addition, PNDRHS2 targeted increasing schools that followed APC and closing schools that followed the objective approach (APO) which did not fit the required condition.

Thus, the aim of the project is highly consistent with the development plan and health sector strategies at the time of planning and ex-post evaluation.

3.1.2 Consistency with the Development Needs of Democratic Republic of the Congo

At the time of planning and ex-post evaluation, improving the quality of health and medical condition was in urgent need. At the planning phase, health system of DRC had been malfunctioned due to continuous civil wars. Health indicators were limited, such as maternal mortality ratio (990) per 100,000 live births and under five mortality rate (205) per 1,000 live births. One of the main reasons was the shortage of human resource for health (HRH). The ratio of population per HRH were 21,600 per doctor, 2,590 per nurse, 82,935 per pharmacist, and 124,400 per sanitary engineer, which was far below the WHO standard (5,000-10,000 per doctor, 300 per nurse and 5,000 per sanitary engineer). Additionally, distribution of types of job in a particular area, was very skewed. For example, 81 percent of health human resources were nurses and the number of other health professional was small. Nurses were allocated widely in the country but the majority of other health professionals worked in Kinshasa. A number of secondary health schools not fit into the required standard had provided low quality HRH. Health personnel in the country are classified as A0, A1, A2, A3[14], among which secondary health workers are A2. Province runs public secondary health school under the jurisdiction of the Ministry of Health while there are private health schools. Based on the cooperation with other donors and the needs of the country, Japan International Cooperation Agency (JICA) has established bilateral cooperation guidelines with the Ministry of Health "Grands Axes[15]", which centre cooperation in the quality improvement of health human resources. This project clearly follows the indicated objective of improving secondary HRH (A2 health human resources under the jurisdiction of the Ministry of Health).

At the ex-post evaluation phase, health indicators remained the worst such as maternal mortality ratio (850) per 100,000 live births and under five mortality rate (98) per 1,000 live births. The figures of maternal mortality were worse and under-five mortality was nearly equal with the average of Western-Central Africa[16] (maternal mortality ratio: 679, under five

[14] A0 Health human resources are doctors, dentists, pharmacists who are trained at medical department of university under the jurisdiction of the Ministry of Higher Education. Nurses and midwives of A1 are trained at the A1 training school under the jurisdiction of the Ministry of Higher Education, and there are also public and private as well. A3 is not currently being conducted, but midwives and nurses of A3 who were once trained work in hospitals etc.

[15] Grands Axes: The Japanese health advisor assisted the formulation of guidelines through problem analysis workshops with counterpart agencies. The current target is the period of 2014-2018.

[16] Western Central Africa has worst seven out of ten countries with under 5mortality rate in the world (Chad 2nd, Central Africa 4th, Sierra Leone 5th, Mali 6th, Nigeria 7th, Benin 8th, and Democratic Republic of the Congo 9th). UNICEF, 2016

mortality rate: 99). According to the evaluation of PNDS (2011-2015) and PNDRHS2 (2016-2020), there remained a shortage of HRH; especially midwife, pharmacist, medical technologist, and sanitary engineer. Hence, there has still been a need to produce these secondary HRH. Quality improvement of education for nursing is also needed. According to PNDRHS2 (2016-2020), the number of production of nurses as a total has been planned to decrease, but the production by APC has been thought to increase, while production by APO tended to decrease in PNDRHS2. There are number of Institut d'Enseignement Médicale and Institut Techniques Médicales (IEM/ITM) which not fit the standard, MOH is trying to close them based on the required standard. However, due to political reasons and lack of budget for assessment, closing poor quality IEM/ITM hasn't proceeded. Concurrently, MOH is developing a national model school that applies APC. At the time of ex-post evaluation, the number of courses applying curriculum based on APC was nursing (27), midwifery (17), assistant pharmacist (1), sanitary engineer (1), and medical technologist (1) among nation-wide secondary health schools. INPESS[17] assisted by the project applies APC to all 5 courses and INPESS is the only IEM covering 3 courses applying APC, namely pharmacist, sanitary engineer and medical technologist in the country. Therefore, INPESS has a potential to be a national model school in basic education. In the future, there is a strong need to improve other IEM/ITM and it is needed for INPESS as being a leading school to other IEM/ITM.

3.1.3 Consistency with Japan's ODA Policy

At the planning phase of the project, according to Japan's ODA Data for Democratic Republic of the Congo (2010), Japan decided to restart bi-lateral assistance in the discussion of policy economic assistant during February 2007 based on the democratic progress of the country. In this discussion, the following were determined; 1) assistants should be in accordance to Poverty Reduction Strategic Paper and Country Assistance Policy which is uninformative assistant strategy among donners, 2) mean time priority on the access of social service (water, education, health and hygiene) which is a pillar of Poverty Reduction Strategic Paper, 3) three agreed priorities on "consolidation of peace", "economic development", and "access to social service". Health was positioned in the "access to social service" which benefits the nation directly with high priority for social infrastructures such as school and hospital due to heavy deterioration by civil wars. The project also contributed to Millennium Development Goals and Tokyo International Conference on African Development IV (improvement of 1,000 health facilities and training for100,000 health human resource) in Yokohama Declaration. Thus, the project is consistent with Japan's ODA policy.

[17] INPESS: Abbreviation for Institute national pilote de l 'enseignement des sciences de santé. "National Health Human Resources Development Pilot School". Ministerial Ordinance issued in September 2013 that IEMK was closed, and clarified the new name to differentiate as a national pilot school to be a model of human resource development in the country.

In conclusion, this project has been highly relevant to the country's development plan and development needs, as well as Japan's ODA policy. Therefore its relevance is high.

3.2 Efficiency (Rating: ②)

3.2.1 Project Outputs

The content of the plan of this project was as follows (Table1 and Table2).

Plan

Site area: about 34,186m^2 (3.4ha)

Total facility area: 7,057.68 m^2

1) Facility Plan

Table 1 Facility Plan

Name of room	Purpose	Capacity	No. of room	Floor area	Total floor area (m^2)
School					
1. Classroom and teacher's room					
1-1. Class room					
Class room (large)	Lecture・study	30	6	51.8	311.0
Class room (small)		10	9	25.9	233.3
1-2. Teacher's room (course)					
Nurse	Course head, chief teacher, Full-time and part-time teacher	12	1	57.6	57.6
Midwife		12	1	57.6	57.6
Pharmacist		11	1	57.6	57.6
Sanitary engineer		11	1	57.6	57.6
Medical technologist		11	1	57.6	57.6
2. Training room					
TP-1 Nurse&midwife	Training for Fundamental Nursing and Adult Nursing (practice with simulator for bed bath, position change, transfer, dressing, injection), Training for Neonatal Nursing (practice with simulator for bed bath, dressing, tube feeding, gastric suction, blood test)	30	1	144	144
Storeroom	Including teacher's room	2	1	28.8	28.8
TP-2 Pharmacy laboratory room	Drag compounding training, Drag sample display	10	1	57.6	57.6
Store room	Including teacher's room, Poison study room	2	1	28.8	28.8
TP-3 Insect/ bacteria/ sanitation	Infectious parasitology observation, Anatomy, Sample display	10	1	115.2	115.2
Store room	Including teacher's room, Malacology, Infection science	2	1	28.8	28.8
TP-4 Medical technology	Training for Medical technology, Sterilizer	10	1	86.4	86.4
Store room	Including teacher's room, Bacteriology, Virology, Haematology	2	1	28.8	28.8
TP-5 Physics, Chemistry, Anatomy	All subjects common training room (Physics, Chemistry, Anatomy)	30	1	115.2	115.2
Store room	Including teacher's room	2	1	28.8	28.8

TP-6 Information processing	PC basic, Medical record management (PC 25 units)	30	1	77.8	77.8
Store room	Including teacher's room	2	1	25.9	25.9
3. Other					
Library	Open access (study room)	75	1	103.7	103.7
Store room		5	1	25.9	25.9
Multipurpose room	Meeting room, Indoor gym, store room	200	1	311.0	311.0
Management					
D6 office	Ministry of Health D6 office	6	1	25.9	25.9
Principal office	Including secretary room	1	1	38.9	38.9
Course head office	1 each for department head (5 rooms including store rooms)		1	51.8	51.8
Management office	General affairs, maintenance, cashier	20	1	64.8	64.8
Meeting room	30 person (available to separate in 2 rooms)	30	1	51.8	51.8
Nursery room	Health management	5	1	25.9	25.9
Other	Entrance hole, corridor, stairs, rest room, storeroom, machine room, other				1,553.8
Dormitory					
Male	Based on total capacity and male/female ratio	2	10	17.3	173
Female		2	50	17.3	864
Manager office		4	1	63.4	63.4
Guard office(M/F)	Guard entrance and exit	1	2	17.3	34.6
Dining	For meal service (Including kitchen)	60	1	207.4	207.4
Management office			1	17.3	17.3
Laundry			3	17.3	51.8
Study room (male)		16	1	25.9	25.9
Study room (female)		60	1	69.1	69.1
Other	Entrance hole, corridor, stairs, rest room, storeroom, machine room, laundry, other				956.2
Teacher's dormitory		4	6	60.5	362.9
Other	Corridor, stairs, rest room, other				146.9
Other					
Guard	Guard house	8	1	24.0	24.0
Electric room		-	1	34.6	34.6
Bus garage	3 buses	-	1	97.2	97.2
Waste storage room		-	1	19.4	19.4
Outdoor practice place		-	1	58.3	58.3
Total				7,057.68	

Source: documents provided by JICA

2) Equipment Plan

Table 2 Equipment Plan

Equipment	Unit	Specification	Purpose
Patient simulator for nursing care (both sexes)	2	Height: 170-80cm, Parts: head, eyeball, tracheostomy, chest, arm, abdomen, leg, Function: movable arm and leg with injection pad, Genital: changeable for both sexes	Practice to care, examine and treatment for patient. General purpose model (apply to all bellow)
Incubator	2	Open-close: closed, forced ventilation, Control: manual, Temperature heater: around 300, Temperature range: 24.9-38.0℃, Alarm: abnormal temperature set, stop fan motor, abnormal probe	Practice to care premature baby and to handle incubator operation
High pressure	1	Volume: more than 50L, Temperature range: 121℃ or	Practice to sterilize equipment and

steam sterilizer		135℃, Method: steam sterilizer	to handle operation
Binocular microscope (for teacher, with monitor)	2	(Total magnification:40-1000X, Lens: Eyepiece, with objective lens, Lightning: over 30W, Accessory: monitor, TV camera	Teach test method with microscope
Topography	1	Function: Horizontal angle, Altitude angle, Oblique distance, horizontal distance, Accessories: internal battery, charger, vinyl cover, tripod, with storage box	Learn survey methods and how to secure safe water (well water)。
PC	37	OS: Windows 7 or equivalent, CPU:Pentium4 or equivalent, HDD: over 250GB, Accessories: monitor over 17 inch, keyboard, mouse	Learn to operate PC for information processing of medical care
Copy machine	2	Method: Monochrome, Copy speed: 25 sheets/min or more, Function: with sorting function, Cassette: 1 piece for each size A4 and A3, total 2 or more, Model: floor stand type	Distribute teaching materials
Bus	3	Handle: left side, power assist, Capacity:25-30 person, Air-conditioner, Engine displacement: 3500 cc or more	Transport students to their field practicum safely and surely

Source: documents provided by JICA

Actual

Both facility construction and equipment provision were mostly implemented as planned. Actual site area and total floor area was 38,372.3m^2 and 7,328.4m^2 respectively. There were some minor revisions of facility and equipment actually procured by the project compared to what was planned at the time of the implementation. Almost all the changes were regarded as reasonable to improve convenience such as specification, shapes, placements of facility and equipment based on the necessity of usage and maintenance. During the construction period, unexpected procedures happened, namely removing underground objects, placing of concrete, and removing surface waste widely. Nonetheless, no trouble by above changes was reported.

The pre-implementation of the project undertakings of the Government of DRC were mostly implemented as planned, such as construction site preparation and demolition of existing facilities including removing illegal cultivated land, and fencing construction. Preparation of the electricity wiring and water supply and drain piping connection to the project site and closing of ex l'institut d'enseignement médical de Kinshasa (IEMK) were also implemented by the DRC side as planned.

3.2.2 Project Inputs

3.2.2.1 Project Cost

The project was implemented within the planned budget (82 percent against the plan). The project cost was planned as 1,852 million yen in total (85 million yen for detailed design and 1,767 million yen for main construction), which included around 12.6 million yen from the DRC side. The actual cost was 1,525 million yen from the Japan side including 85 million yen for detailed design and 1,440 million yen for main construction. The project did not spend

contingency funds. The actual cost from the DRC side was unavailable to obtain, therefore evaluated only the Japan side.

3.2.2.2 Project Period

Project period was planned as 25 months including detailed design and bidding. However, it took actually for 31 months and was longer than planned (124 percent against the plan). The period exceeded the plan as unexpected removal of underground objects, placing of concrete, and removal of surface waste during the construction phase was needed. In addition to the above reasons, construction was delayed due to difficulty in acquiring concrete from shortage of crushed stones, closing the main road for having Summits, and strikes and congestions in the port.

Although the project cost was within the plan, the project period exceeded the plan. Therefore, efficiency of the project is fair.

3.3 Effectiveness[18] (Rating: ②)

3.3.1 Quantitative Effects (Operation and Effect Indicators)

Quantitative effects of the project were set following indicators 1) number of students for secondary HRH training per year, 2) number of IEM/ITM (school) to disseminate educational materials or curriculum for production of secondary HRH, 3) number of continuous trainees of IEM/ITM teachers and acting secondary health service provider, and 4) number of students from suburbs and outside of Kinshasa who commute more than 2 hours ｛. Additionally, “the number of students who use the training rooms” was added as an additional indicator. For this reason, before the project, IEMK trained students without using training room to produce secondary HRH. The project has installed training rooms with equipment and INPESS is able to train with using training room. Therefore, we added the indicator to assess human resource development aspect supplementary. Furthermore, for the evaluation, “number of users of the multi-purpose room” was set as a reference indicator. At the planning, one of the qualitative effect indicators, namely 3) number of continuous trainees of IEM/ITM teachers and acting secondary health service provider was set as 800 person per year based on the potential usage of the multi-purpose room to conduct teacher’s trainings and continuous trainings 200 person x 4 times per year. Based on the above, we assess the usage of the multi-purpose room additionally.

[18] Sub-rating for Effectiveness is to be put with consideration of Impact.

Table 3 Target and Actual Figures of Quantitative Indicator

Indicator	Baseline	Target	Actual			
	2010	2015	2013	2014	2015	2016
	Planned Year	2 Years After Completion	Completion Year	1 Year After Completion	2 Years After Completion	3 Years After Completion
No. of student per year	62	90	49	101	98	122
Nurse	42	30	18	29	33	46
Midwife	―	30	17	24	26	32
Pharmacy	17	10	14	19	18	19
Medical Technology	―	10	0	21	11	17
Sanitation Engineer	3	10	0	8	10	8
Additional indicator: No. of student to use training rooms	No training room	-	49	101	98	122
No. of IEM/ITM to disseminate material/curriculum	Trial in partial IEM/ITM	More than 200 IEM/ITM	-	-	-	Nurse 44 Midwife 14
No. of IEM/ITM's teacher to be trained	No record	800	-	-	-	Nurse 88 Midwife 12
No. of secondary health service provider to be trained for continuous trainings			-	-	5S[19] training: 152 Other*1: unclear	Nursing Council training: 150
Reference indicator: No. of person to use multi-purpose room	-	-	200-300*2 and school activities	200-300 and school activities	200-300 and school activities	200-300 and school activities
No. of student from suburb of Kinshasa	0	120/year	Dormitory 49	Dormitory 20	No record	Dormitory: 21 Other school: 12

Source: documents provided by JICA and Executing Agency
*1 The multi-purpose room (accommodating 200 people) has been used as a venue for trainings and workshops with participants from domestic and overseas, but the number of users has not been recorded.
*2 Number of examination takers for national unformal graduation. Every year students in the final grade of all secondary health professionals in Kinshasa City use the multi-purpose room for graduation examinations.

1) Number of students for secondary HRH training

This indicator has achieved the target number of 90 students since 1 year after the completion (101 in 2014). The number of students has changed from 49 at the first fiscal year of

[19] 5S is the initial letter of 'S' taken, Sort, Set, Shine, Standardize, and Sustain. It is a slogan used for maintenance and improvement at work environment such as manufacturing and service industries.

school opening, to 101, 98 and 122 students, after one, two and three years since completion, respectively. When INPESS opened in September[20], 2013, its students, teachers and staffs were renewed without taking over from IMKE. Since the project's planning, INPESS was decided as a model to be a national pilot school of secondary human resource training schools in the country, so the school was to be operated separately from former state IEMK including organizational structure. Thus, the name of the school was changed, and teachers were newly hired after exam and interview, and the students were accepted with examination. According to the plan, recruitment of faculty staff and preparations to open the school were decided to begin one year before the school's opening, but issuance of ministerial ordinance to open the school was delayed, so the recruitment of staff and admission of first term students was done immediately before the school's opening. INPESS started with three courses teaching 49 students. Even the number of students has achieved the target since 1 year after the project compilation (2014), a few came from the suburbs of Kinshasa and other areas because recruitment was inactive. A recruitment committee started to improve awareness by advertising in social media such as radio and advisement suggested by the Expert on the Management of Basic Training Institution since 2015. The committee started its activities to increase students from other areas in fiscal year of 2016.

Additional indicator: number of students who use the training rooms

The number of students who use training rooms equalled the number of students because all students used training rooms from first grade. According to an interview with faculty members, there were no training room and space for consultation training in the former school building, so practical exercises with real patients could only be in the 3rd and 4th grade at their first time. Compared to the former situation, some teachers felt that the quality of education remarkably improved. Specifically, there were restrictions in conveying the rotation of a baby, taught with flat screen pictures or verbal explanation, with no delivery model for nurse/midwife practice. By using a delivery model procured by this project, students could understand the rotation of baby in time sequence, having better knowledge and experience before facing a patient. It contributes for students to improve of facing with confidence. Also, some teacher expressed fulfilment that practical training after lectures, required by the new curriculum, could also be available conducted in the new practice rooms.

2) Number of IEM/ITM to disseminate educational materials or curriculum

Nursing and midwifery course introduced teaching materials and competency approach (APC) to other 58 IEM/ITM and shared experiences on education at INPESS. However, the numerical target of 200 schools has not been achieved. INPESS has developed a

[20] School year begins in September and ends in August the following year.

school administration manual, competency benchmarks for quality education of assistant pharmacy and medical technology, and course notes of assistant pharmacy, medical technology and sanitary engineering. However, despite the Ministry of Health requesting budget for dissemination towards the Ministry of Planning, no allocation was given. Thus, the budget for INPESS has not been allocated by the Ministry of Health. As a result, there is currently no budget for dissemination and reprint of teaching materials developed in INPESS. Furthermore, to apply for APC, training from 1st grade is needed, but other IEM/ITMs lack training facilities and equipment in their practice room. Some teachers also complain that even if it spreads, it is difficult to make use of it. Local security seemed to not affect the dissemination situation.

3) Number of continuous trainees of IEM/ITM teachers and acting secondary health service provider

Training of teachers at other IEM/ITM was conducted only in nurse and midwife courses while it was not conducted in other course. In addition, continuous education for secondary health service providers working in hospitals was not implemented. According to the Ministry of Health Department of Continuous Education, even the Department submitted plans of continuous education of teachers and secondary HRH, yet the Ministry of Planning had not approved and not allocated budget. Hence, they were not able to conduct continuous education. As for INPESS, it was heard that their hands were full in putting school administration of basic education on track. However, the reason for not conducting trainings for teachers of other IEM/ITM and continuous education for secondary HRH is more on not allocate ~~s~~ neither the plan nor the budget from the Ministry of Health. Because INPESS has no department and person in charge of continuous education since its planning, coordination with the Ministry of Health has not worked well.

On the other hand, according to the questionnaire answers, the multipurpose room that could accommodate 200 people has been frequently used by external organizations. For instance, the Nursing Council conducted continuous education trainings on diabetes and high blood pressure care to nurses. For 5S training by JICA, Ebola haemorrhagic fever, HIV / AIDS, yellow fever etc., the room was used by domestic and foreign participants. It has also been used for graduation exams from all public secondary health human resources schools in Kinshasa city every year. However, the number of users was not recorded in INPESS. Buses provided transport transferring students for outside training institution which is original purpose, additionally, Ministry of Health personnel for trainings and meetings when not used by students for outside training institution.

4) Number of students from suburbs of Kinshasa who commute more than 2 hours (Occupant of dormitory)

At the time of planning, former IEMK said there were many students who commuted more than two hours, with accepted students from abroad as well. The Ministry of Health had been preparing a scholarship system with local governments to increase the number of students from rural areas. They foresaw certain occupancy rate to be secured even the scholarships from Ministry of Health was not allocated. The occupancy of the dormitory set the capacity at 120 people. However, dormitory utilization rate has been low as scholarships for rural students from the Ministry of Health have not been implemented, and student recruitment from remote areas has not progressed. Forty-nine students were using government subsidy for dormitory expenses when the school opened, but after the first year, government subsidy was not given, so parents had to bear the dormitory fee, leaving the utilization rate at around 20%. Dormitory fee is USD 100 per month with 3 meals a day, including utility fee. At the time of the ex-post evaluation, the student's commuting time was investigated; dormitory: 21 people, less than 1 hour: 55 people, 1-2 hours: 32 people, and 2 hours or more: 1 person. The cost of transportation for students who travel 1 to 2 hours to school estimated to 2,000 to 3,000 Congo Francs a day on a round-trip (about 210 to 320 yen[21]). Although it cannot be said that the dormitory fee is set high, because parents can manage only daily transportation fee ($30-$46 per month (20 days)). The occupation of dormitory is low because most of parents struggle to afford the tidy dormitory fee[22].

3.3.2 Qualitative Effects (Other Effects)

The qualitative effect indicators are as in the Table. 4.

Table 4 Qualitative Effects

Indictor (target year: 2015)	Contents
Improve the quality of health care services	To produce highly educated personnel continuously, so that the quality of health care services in the Democratic Republic of Congo will improve.
Enjoy appropriate health and medical services	People will be able to enjoy appropriate health and medical services by producing secondary health human resource which so far has lacked of absolute numbers[23], especially nurses, midwives, assistant pharmacists, medical technologists, and sanitary engineers.
Improve of training level for	IEMK constructed by this project functions as a human

[21] Conversion using JICA rate in 2016. 1 Congo franc = 0.10681 yen.
[22] The monthly income of civil servants is about 70 dollars (heard from a teacher of INPESS)
[23] Nurses occupy 80% of all health service providers while production of other health professionals is small. (Health human resources census 2009)

health personnel	resource development model school, in accordance with the health human resource development plan. This is so that the educational model spreads to IEM/ITM nationwide, contributing to the improvement of health human resources training.

To assess the qualitative indicators, the following points were analysed through the existing data, interview survey, beneficiary survey[24] and questionnaire survey. Since there were no graduates at the time of ex-post evaluation, possible assumptions were made that the three indicators were to be achieved.

First, regarding “improve the quality of health care services: It will be possible to continuously produce quality educated personnel, so that the quality of health care services in the DRC will improve”, it is necessary to understand "what is quality education" as it lacks a concrete definition. It was assessed by the percentage of teachers and staff who satisfied the criteria required at the time of planning; whether the physical environment is suitable for education, whether classes are being carried out following the curriculum, measuring the quality of the curriculum.

Second, we analysed whether “continuous production is possible” from the following sustainability section described below and prospection to secure the admission of applicants continuously. From this situation, we evaluated the possibility of improving the quality of health care services.

1) Improve the quality of health care services

a. Percentage that satisfies the criteria required for teachers at IEMK at the time of plan (Table 5)

According to the questionnaire answers, the all assigned members met the criteria. Tests and interviews were required for employment of teachers and staff under the INPESS Operation Manual, and they were effectively implemented at the time of recruitment.

Table 5 Ministry of Health criteria and achievement required for teachers of IEM

Criteria			Actual (at ex-post evaluation)	
Occupation	Requirements	Work experience	Total number	Number fulfil requirement and experience
Principal	L2 or A1	5 years	1	1*

[24] We conducted an exhaustive survey (171 students, 26 teachers) for students from 1st to 4th year of INPESS and teachers in charge of subjects. We got responses from 137 students and 26 teachers. Questionnaire was consisted from quality of education, satisfaction with the curriculum, whether classes are being implemented according to regulations etc.

Course head	L2or A1(EASI)	3 years	5	5
Chief teacher	D6 Education major	3 years	5	5
Dormitory in charge	D6 Education major	2 years	1	1
Secretary	D6 or G3 Communication /Administration major	2 years	1	1
Accountant and management	D6 or G3 Commerce major	2 years	1	1

Source: JICA provided and questionnaire answer
* The current principal holds the Master of Public Health and Bachelor of Science in Nursing.

b. Whether the physical environment is suitable for education

According to the beneficiary survey of students and teachers, 87% of the students and 85% of the teachers were satisfied with the physical environment of the school, including facilities and equipment. Even during the surveying process, the inside of the school building was quiet without city noise, and the building was adequately kept clean.

c. Whether the class is being conducted as prescribed

According to the beneficiary survey, 75% of the students and 96% of the teachers answered that lectures and practical trainings are being carried out according to the decided program. The remaining 25% of the students' responses were “Not” (14%), “Not at all” (4%), and no answer (7%). The reason for the negative answer was that students of medical technologist did not have enough practical training and the teaching materials were not sufficient. Since the budget for 2016-2017 includes reagents for training in the department, practical training will be conducted if the budget is enforced.

d. The quality of curriculum

Competency approaches are used in all five courses. According to the beneficiary survey, 96% of the students and 100% of the teachers answered that the contents of the curriculum is good.

e. Evaluation at external /field practicum training place

The quality of education of all five subjects of INPESS has been highly appreciated according to interview from stakeholders and results of beneficiary survey. According to an interview with the Director of Basic Education Department, the Ministry of Health, INPESS teaches fewer students per class, compared to hundreds of students sitting in a class at other health professional schools. For example, according to an interview with all department heads, some third grade students of all 5 courses were highly evaluated at field practicum sites such as hospitals þ and external facilities. Those medical facilities showed interest to hire students after graduation. At the time of the ex-post evaluation, Nursing, Midwifery, and Assistant Pharmacy

jobs were offered to the students in the highest grade. Therefore, it is thought that INPESS makes a certain contribution to high quality human resources development.

f. Continuous production of human resources

The details for the continuous production of human resources has been described in "3.5 Sustainability", but on a general note, continuous production can be met if activities of Recruitment Committee are active and nearly all students hope for employment related to the course they belong to. The Recruitment Committee has started an activity to establish commitments for the recommendation and scholarships of students with the head of local governments, for the increase of students from rural areas. This activity will continue in the future. Also, in order to gather students widely, a survey of information channels that students knew about INPESS was conducted during the Recruitment Committee in May 2016. Based on the results, effective school introduction and public relations activities will be carried out with improvement, so that applicants who wish to enrol will be secured continuously.

As mentioned above, it is difficult to directly evaluate whether the quality of health care services is improving because there have not been any graduates, but it is considered highly likely to improve by the continuous production of quality human resources.

2) Enjoy appropriate health and medical services

INPESS could produce high-quality human resources in areas where the country is in shortage, yet the proper placement is dependent on external condition[25]. Moreover, people's enjoyment of appropriate health and medical services is even further ahead, what the project could contribute to this indicator is only production of high-quality health human resources. Therefore, this qualitative indicator "Enjoyment of appropriate health and medical services" is considered to be beyond the range setting of the effect of this project as settled indicator. For that reason, we describe the possibility of enjoying appropriate health and medical services in the impact section below.

3) Improve of training level for health personnel

In the National Health Human Resources Development Plan (2011-2015), the following is mentioned regarding "INPESS functions as a human resource development model school according to the health human resource development plan".

[25] The Human Resources Department of the Ministry of Health has grasped the current number of secondary health workers in each province, but there is no placement plan. It seems there are public hospitals and health centers exceed the staffing standards or delay salaries and incentives, but the actual situation is only partially cleared. Technical cooperation "PADRHS 2" and the Ministry of Health has worked together to improve proper placement and treatment of health workers in some states.

1. Equipment of management offices, dormitories, libraries, and teaching materials
2. Internet maintenance
3. Internet subscription
4. Development of educational standards and new technologies as a pilot school
5. Arrangement of national workshops for adoption of pilot school standards
6. Administration of tests to recruit personnel
7. Re-education of instructors, teachers, and members of other IEM/ITM

INPESS is going to achieve 1, 2, 3, 4, and 6 of the above list. However, regarding 5 and 7, only the midwifery department contributed to dissemination by cooperation with PADRHS2, while other courses have not disseminated education materials developed and APC. This was due to INPESS not receiving any plans or budgets from the Ministry of Health for dissemination and due to other IEM/ITM lacking practical facilities and equipment.

Regarding continuous education for teachers and acting secondary health workers, neither plans nor budget from the Ministry of Health allocate to INPESS so there is no administrative form such as cooperating Ministry of Health and INPESS. Thus continuous education activities have not been implemented.

3.4 Impacts

3.4.1 Intended Impacts

At the time of the project plan, it was intended that high-quality secondary health workers were to be trained and dispatched in the necessary areas. Since there were no graduates at time of the ex-post evaluation, regarding the production of high-quality health professionals we assessed how much the project could contribute to the number of increasing the five kinds of health human resources against the one of nationwide increasing. According to the National Health Human Resources Development Plan (2016-2020), the trends in the number of production of secondary health workers which the project targeted five professionals in the country, are as follows (“Country” in Table 6). The expected number of prospects at INPESS is indicated by “INPESS” in the same table. In particular, INPESS highly contributes to the increase in Assistant Pharmacist and Sanitation Engineer.

Table 6 Prospects for the number of secondary health human resources trained nationwide and INPESS

		Unit	2017	2018	2019	2020
Nurse	Country[26]	Person	308	361	424	497
	INPESS	Person	7	10	21	46
	% of INPESS	%	2.3%	2.8%	5.0%	9.3%
Midwife	Country	person	40	75	100	145
	INPESS	person	5	11	13	32
	% of INPESS	%	1.3%	14.7%	13.0%	22.1%
Assistant Pharmacist	Country	person	33	32	31	32
	INPESS	person	8	11	17	19
	% of INPESS	%	24.2%	34.4%	54.8%	59.4%
Medical Technologist	Country	person	115	122	129	136
	INPESS	person	0	18	10	17
	% of INPESS	%	0%	14.8%	7.8%	12.5%
Sanitation Engineer	Country	person	8	10	15	25
	INPESS	person	0	4	7	8
	% of INPESS	%	0%	40.0%	46.7%	32.0%

In addition, in order to assess cooperation with PADRHS2, as a reference for impact, we observed the number of students who is applied with several criteria developed by PADRHS2. Results showed that all students in INPESS learned with new cubiculum based on the competency approach. Also, midwifery competency was mainly created in support of PADRHS 2, and the midwifery faculty members collaborated to spread to other schools. Hence, INPESS has contributed to improve the quality of human resource development on a national scale.

3.4.2 Other Positive and Negative Impacts

Benefit to target area and neighbouring community people

The area of the current INPESS site was squatter area before and it was depriving passers. The old IEMK ruins were also bad for the scenery, and were an area people kept away from. However, since the construction of INPESS, the landscape has improved and people are able to safely pass by and come to the school. In addition, although students entering INPESS belong to a class which is not generally affluent, this project has led to opportunities for employment as a result of creating educational opportunities for young people.

Impacts on the Natural Environment:

There was no disposal of medical waste from the practice rooms. The waste water from school buildings and dormitories was properly treated in the septic tank. The maintenance

[26] The number of nurses in 'Country' showed only the one applied of competency approaches.

section regularly checks and maintains the septic tank.

When the school opened, rainwater was flowing into the neighbouring elementary school from the INPESS school grounds and the elementary school classroom was being submerged whenever it rained. Thus, INPESS made money to repair and buried a pipe underground to drain the water, and the issue was solved.

Land Acquisition and Resettlement:

IEMK was originally a construction site but illegal occupants lived in the planned construction site at the time of planning. Resettlement of illegal occupants has been carried out smoothly by the government of DRC, no problems have occurred during and after the construction period. Number of resettlement was not known but the resettlement process was correctly carried out based on domestic lows with discussion and agreement with illegal occupants.

In summary, regarding effectiveness, the number of students has reached the target figure one year after the start of operation. On the other hand, the number of students from other areas has not achieved the target, but there is a high possibility that recruitment committee's activities would increase this value. High quality education has brought good reputation for students from external practitioners, users and community people, and the advantage of employment has begun to be seen, so the foundation as a model school of basic education has been effectively established. Meanwhile, continuous education and dissemination of curriculum are low in achievement because there are problems in establishing systems and plans for coordination with each department of the Ministry of Health. To solve them, INPESS has started communication with each department of the Ministry of Health and has planned to set up a continuous education department inside INPESS. In terms of facility utilization, although the number of people who use such infrastructure is not clear, the multi-purpose room is actively used for workshops and international conferences sponsored by other organizations. Additionally, buses are also used not only for INPESS students to travel to external training places but also to transport related persons of Ministry of Health to trainings. Qualitatively, both students and faculty highly evaluate the quality of education and the educational environment, satisfied highly with the outcome. Since there are no graduates, the impact cannot be confirmed directly, and the proper placement of health workers is up to external factors, so the onset of the impact is unknown.

Overall, this project has achieved its objectives to some extent. Thus the effectiveness and impact of the project are fair.

3.5 Sustainability (Rating: ②)

3.5.1 Institutional Aspects of Operation and Maintenance

Preparation for the opening of the school was not procced by the Ministry of Health. PADRHS1 supported the establishment of the Opening Preparation Committee and advised the ministerial ordinance and INPESS opened in September 2013. The current operational chart is as shown in Fig 1.

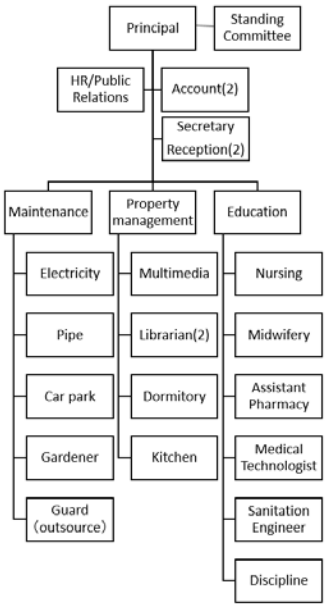


Fig. 1 Organizational Structure of INPESS

Since there were many problems managing INPESS even after the school opened, a follow up on PADRHS2 was necessary. Short-term operation experts was dispatched twice, namely 5S and accounting. However, because further continuous support is in need, and a long-term operation expert has been dispatched (October 2015 - October 2017).

Improvement of operation systems of INPESS has been underway by cooperation with the operation expert at the time of ex-post evaluation and activities for improvement are implemented. For example, an annual activity plan has been prepared, implementation and self-evaluation are being carried out through problem analysis, problem trees created by teachers and staff, and learning exchanges with the National Health and Social Development School of Senegal (ENDESS[27]). In addition, multiple organization charts are undergoing modifications as teachers and staffs have expressed problems in decision making. One other problem is that there is a lack of midwifery and medical technology teachers, with currently a total of 26 teachers carrying out lectures and practical trainings without delay. The maintenance section is comprised of 4 personnel namely manager, electricity, piping worker, and assistant and a gardener that maintain buildings and vehicles. Property management department registers and manages all equipment and materials of INPESS including purchase and management of use of expendable supplies. A dormitory mother manages the entire dormitory including the residence. Regarding the management of facility and equipment, if there is a problem in maintenance management of the facility, they contact the Ministry of Infrastructure and Public Works which is the implementing agency for grant aid, and in the case of equipment, they contact external equipment suppliers.

Regarding the institution between INPESS and Ministry of Health, exchanging reports and advice between INPESS and the Basic Education Department, Ministry of Health, which is the upper jurisdiction of INPESS, has been smooth because required for the first year since its opening by the current ministry ordinance (Decret). Since then, it has been difficult. In addition, although the current standard of school regulations (Statut) is for traditional human resource

[27] Ecole Nationale de Développement Sanitaire et Social

training schools, the actual management system is an independent administrative corporation. The previously described reasons made reporting and communicating with the minister of Ministry of Health, vice minister, Basic Education Department, Continuous Education Department, and INPESS, complicated. At the time of the ex-post evaluation, Basic Education Department took initiative to review the "Statue" for the transition to an independent administrative corporation type[28] collaborate with the Ministry of Health's Department of Secretariat (Inspecteur Général), the principal of INPESS, JICA DRC Office, the JICA advisor of Department of Health Ministry and PADRHS2 experts. If it is transferred to "Etablishment Publique", the management system can be expected to strengthen as more autonomy will be enhanced.

Thus, although the institution of operation and maintenance is being improved for resolution, there were some problems at the time of ex-post evaluation.

3.5.2 Technical Aspects of Operation and Maintenance

Teachers are hired by evaluation according to the INPESS operation manual such as holding degrees, years of experience, tests and interviews. Therefore, we believe that the level of teachers for operation of school has been maintained. According to the beneficiary survey, almost all the 5 of course heads and the 5 of chief teachers are veterans who have over 10 years of experience in their field. In addition, a teacher in charge of Discipline is aiming to improve the environment in which adolescent students can concentrate on studying, gives guidance when necessary.

Since the manager of property management (Intendant) and the manager of maintenance department received the medical equipment maintenance training in Japan, they have adapted the contents learned to daily maintenance and management. For example, they provided 5S training to INPESS staffs and it was said that the staff's conscious of maintenance was kept high. They introduced used books as an inventory for equipment in every practice room, to early detect any abnormality of equipment by user's operation check, in addition to periodic inspection by the maintenance department. It was said that they are possible to contact external equipment agencies, if personnel inside INPESS cannot deal with items requiring maintenance of equipment and facilities procured by the project.

Therefore, INPESS is deemed to have sufficient technical level of education and maintenance management of facilities and equipment.

3.5.3 Financial Aspects of Operation and Maintenance

There are three sources of income for INPESS: budget from the Ministry of Health,

[28] The independent administrative corporation type is under the jurisdiction of the prime minister's office. Therefore, the advantage is that 1) it is easy to coordinate between ministries and agencies, 2) autonomy is high, 3) it can mobilize other budget resource to a certain extent not only the national budget.

student's tuition, and lending of conference room. However, since opening, there is no budget allocation from the Ministry of Health, thus income depends on tuition and room lending (Table 7). The reason for this is that the proportion of health in the national budget is small[29] and the execution rate of the budget is low. On the internal financial aspect of INPESS, transparency is expected to be improved with improvement of financial management by activities of the accounting audit committee consisting of accounting section (accountant and casher), secretary, principal, and the dispatched operation expert from JICA. Utility expenses including bus fuel costs are directly payed by the government. Because teachers and staff are civil servants, salaries are to be paid by the government, but payment has been delayed most of the time. INPESS keeps track of each individual who has not been paid, and requests the government for approval regularly. No allocation of budget from the Ministry of Health for continuous education has also been an impediment factor to implement activities financially.

Regarding the financial aspect of operation and maintenance, it is judged that there is a problem.

Table 7 Financial balance of INPESS

(Unit: Yen)

Items		2014	2015	2016
Income	Tuition	1,857,839	3,259,514	3,794,377
	Commercial income (room income)	6,778,995	-	3,725,042
	Government grant	-	3,557,917	-
	Loan from the government	-	-	-
	Other Income (Counterpart Fund)	24,093,475	32,388,486	-
Income total		32,730,282	39,205,916	7,519,419
Outcome	Employee salary	1,416,919	2,607,611	3,338,506
	General administrative management	239,038	4,183,260	543,478
	Maintenance expenses	4,807,040	-	3,526,325
	Real Estate Investment	-	-	-
	Liquidity investment	-	-	-
	Payment	-	-	-
	Other payment (Counterpart Fund)	24,093,475	32,388,486	
Outcome total		30,515,997	39,179,356	7,408,309
Balance		2,214,290	26,559	111,111

Note: As the questionnaire answer was written with Congo franc and dollar, figures were converted to yen using JICA exchange rate (1 Congo franc＝0.07683yen, 1dollar＝112.185yen) as of July, 2017.

[29] It is reported that the proportion of health in the government budget from 1998 to 2009 was in the range of 1%-7%, and the average execution rate of the budget was 70% (Health Sector Analysis Report p.5-4 JICA, 2013). According to an interview from stakeholders, the administration budget of public schools is not allocated by the government.

3.5.4 Current Status of Operation and Maintenance

Most of the facilities and equipment are maintained and managed with no problem. Management of equipment in training rooms is carried out by practitioners in each course. Each equipment has a used book attached and the user is required to record it on date, practitioner's name and, whether there are problems or not. It was observed equipment is used. A variety of maintenance and management forms was introduced by the JICA Expert on the Management of Basic Training Institution in April 2014 and almost all of the forms have been continuously used for inventory management and maintenance. The bus operation form was also filled every time it was used. Periodic inspections were carried out according to the mileage and the next inspection time was planned. Regarding the management of the dormitory, the dorm mother managed the life of students while the property management section managed dormitory equipment.

It is judged that there is no problem on the status of operation and maintenance as maintenance is carried out on a daily basis.

In sum, some minor problems have been observed in terms of institutional and financial aspects. Thus, sustainability of the project effects is fair.

4. Conclusion, Lessons Learned and Recommendations

4.1 Conclusion

This project was implemented for the Institute of Medical Education Kinshasa, to improve facilities and equipment devastated by conflict. As a national model school, the project aimed (1) to train high-quality secondary health human resources, (2) to develop educational model for secondary health human resource, (3) to conduct training for teachers of nationwide secondary health professional schools, and (4) to conduct continuous education for secondary health workers, contributing to their quality training, and placing them in necessary regions. Consistent with the development policy and needs of the Democratic Republic of the Congo and ODA policy of Japan, relevance was high. This project was implemented efficiently, fair to the project content planned. However, despite the project cost kept within the plan, the project period was exceeded. Regarding the project effectiveness, the number of students has increased and the quality of education has been highly evaluated by external practice partners and community people so the foundation as a model school of basic education has been established. Nonetheless, the number of students from rural areas was minimal and dormitory occupancy did not achieve the target. Continuing education and dissemination of curriculum also did not reach the target value. Qualitatively, both students and teachers had satisfaction in the quality of education and the educational environment, meeting their expectations. At the time of the

ex-post evaluation, there were no graduates, so it was not possible to confirm the onset of the impact. Therefore, the effectiveness and impact is fair. Institutionally and financially, there were some issues regarding the operation and maintenance of this project thus sustainability of the effect is fair.

In light of the above, this project has been evaluated to be partially satisfactory.

4.2 Recommendations

4.2.1 Recommendations to the Executing Agency

1) Creating a framework for continuous education by the Ministry of Health

In effort to maintain continuous education for teachers of IEM/ITM and secondary health workers in the country, there is a lack of national policy on health sector strategies and the absence of clear standards and guidelines. Though, the continuous education policy and standards were planned with support of PADRHS2 in 2014, they were not approved as of February 2017[30]. Therefore, in order to conduct continuous education in INPESS as a national pilot school, the Continuous Education department, Ministry of Health should take leadership to work for the proposed policy and standards to be approved and to make a concrete continuous education plan in INPESS. Additionally, it is advised that the budget allocation from the Ministry of Health must be made for continuous education.

2) Implementation of continuous education in INPESS

INPESS should implement continuous education as a national pilot model collaborating with the Continuous Education department, Ministry of Health and donors. INPESS should arrange the implementation system, setting a department and personnel in charge of continuous education which currently not present in INPESS. Then the department in charge would be able to lead working and consultation with relevant organizations and present concrete implementation plans to realize it.

4.2.2 Recommendations to JICA

1) Support for creating a framework of continuous education

In order to implement continuous education for INPESS as it is found in their role as a national pilot school, it is recommended that JICA provide technical support necessary to conduct the implementation of continuous education policy and standards formulated by PADRHS2. For example, in cooperation with the person in charge of continuous education of INPESS deployed in the future, it is recommended that JICA set up consultation with relevant organizations such as the Continuous Education department, Ministry of Health and identifies necessary work items for implementation in INPESS. It is also considered that JICA would

[30] Democratic Republic of the Congo, Health Sector Analysis Report (JICA, May 2017)

provide technical support for monitoring and evaluating whether INPESS executes of continuous education as planned.

4.3 Lessons Learned

Examine the effectiveness of existing government ordinance and national development plan to set indicators

Even though national government ordinances and health development plans exist, only conceptual explanation is given and targets are not accompanied by effective executions especially in developing countries. Even detailed ministerial ordinances exist, flows and systems related to concrete implementation at the field may be missing. At the time of this project plan, priority was given to the development of health human resources through continuous education at a national level such as PRGSP. However, clear standards and guidelines were lacking, and budget shortage and uncertainty of effectiveness was one of the main issues revealed as a result. Therefore, although continuous education was set as an indicator based on policy, the policy was ineffective so continuous trainings at INPESS were not conducted. Furthermore, the function of INPESS was indicated in ministerial ordinance, but it was not carried out because the concrete implementation flow at the field level and the system were not formed. Thus, it is necessary to first thoroughly examine the actual effectiveness of existing policies and institutions. Next, it is important to analyse the factors which are insufficient in its effectiveness and to include counter activities against the factors at the field level in the project scope within its feasibility. If there is a limit on the scale and cannot be included in the project, it should be supplemented by related projects.

On the other hand, an indicator to assess effectiveness in the project was set based on the function of past IEMK (in order to adapt to the equipment introduced in the project), namely dissemination of curriculum to other schools. However, the ministerial ordinance which defines its role at the field level did not include the function of dissemination of curriculum etc. developed in INPESS even it was set in the indicator of the project. Additionally, when disseminating developed curriculums, you need to consider the process and certain time of finalizing them before dissemination. Therefore, when setting indicators, if the contents are not included in the existing ordinance, it should be included in future ordinance showing its roles of the target organization (INPESS in this case). Alternatively, a function not described in the existing ordinance may not be included in the scope of the project and may not be selected as an indicator.