

Democratic Republic of the Congo

FY 2017 Ex-Post Evaluation of Technical Cooperation Project

“Project on Development of Capacity of Instructors at the National Institute of Professional Preparation”

External Evaluator: Hajime Sonoda, Global Group 21 Japan, Inc.

## **0. Summary**

The Project on Development of Capacity of Instructors at the National Institute of Professional Preparation (hereinafter referred to as “the Project”), a technical cooperation project, was implemented with the project purpose “teaching skills of instructors of the National Institute of Professional Preparation (Institut National de Préparation Professionnelle; hereinafter referred to as “INPP”), mainly those of the automobile department and the refrigeration / air conditioning department, are improved”, and with the overall goal “quality vocational training is offered by INPP, mainly in the automobile department and the refrigeration / air conditioning department”. The importance of vocational training within the policies and development needs of the Democratic Republic of the Congo (hereinafter referred to as “the DRC”) was high at both the time of planning and the time of completion of the Project. Moreover, from the perspective of expanding vocational training opportunities, the Project was highly relevant to Japan’s ODA policy at the time of planning. Based on the above, the relevance of the Project is high. As a result of the Project, implementation system of training for instructors was strengthened on basic and common skills<sup>1</sup>, pedagogical skills, and specialized skills in the automobile department and refrigeration / air conditioning department, and the evaluation on the training by trainees and enterprises was improved. Therefore, it is deemed that the quality of INPP’s training was improved. Other improvements observed were establishment of the PDCA cycle at INPP<sup>2</sup>, and a more favorable evaluation of INPP by industrial circles, etc. To sum up, the effectiveness and impact of the Project are deemed to be high. Against the background of delay to “the Project for Expansion of INPP Kinshasa Provincial Direction” (grant aid, 2012, hereinafter referred to as “the Grant Aid Project”) caused by the Great East Japan Earthquake, the Project period was longer than planned and the Project cost also exceeded the planned budget. Hence, the efficiency of the Project is fair. Concerning sustainability, while there were some minor financial constraints, there were no major impacts that affected sustainability of the effects that materialized on completion of the Project. Since there have been no problems regarding policy, system, institutional, and technical aspects, the sustainability of the Project is

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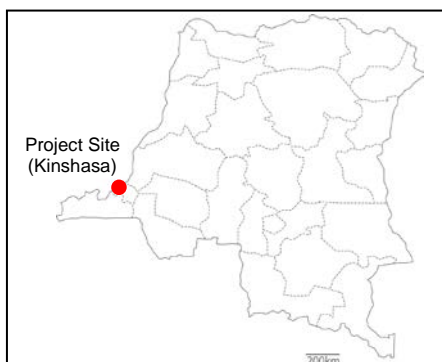
<sup>1</sup> The basic and common skills training entails training in basic mechanical, electrical, and electronic contents for instructors in the departments of electricity, electronics, machinery, automobiles, refrigeration and air conditioning, and welding and plating. This is intended to strengthen the capacity of instructors, however, the same training is not given to trainees.

<sup>2</sup> The “PDCA cycle” is a technique for smoothly advancing work such as production management and quality control in project activities. It entails continuously improving work through repeating the four stages of Plan→ Do→ Check → Act.

high.

In light of the above, this Project is evaluated to be highly satisfactory.

## 1. Project Description



Project Location



Training at INPP Kinshasa

### 1.1 Background

Passing through a period of confusion and civil war after the riot in Kinshasa in 1991, the DRC has experienced progress towards reconstruction and development following establishment of a provisional administration in 2004. The Kabila administration, which came to power in 2007, raised “improvement of employment and labor” as a priority issue and made it a key policy for economic development. In line with this policy, it regarded the training of human resources for industry as important. Based in the capital of Kinshasa, INPP was established with the objective of reinforcing the vocational training capacity for citizens, and it has become the Congo’s largest vocational training agency having numerous centers all around the country. The Government of Japan implemented assistance comprising dispatch of experts and supply of equipment to INPP in the 1980s. However, since the civil strife had ended, INPP was confronted by numerous issues including insufficient capacity and aging of instructors, deterioration of equipment and facilities, limited capacity of facilities.

Against this background, the Government of the DRC issued a request to the Government of Japan asking for assistance aimed at strengthening the capacity of INPP to implement training. The Government of Japan agreed on this, and JICA implemented the “Preparatory Study for Cooperation on Vocational Training Program in the DRC” (l’etude préparatoire de la coopération pour le programmes de formation professionnelle en République Démocratique du Congo) (2009-2010), and the decision was made to implement the Vocational Training Program comprising 1) a technical cooperation project aimed at strengthening the pedagogical capacity of instructors, 2) grant aid aimed at construction and installation of facilities and equipment at INPP Kinshasa, and 3) dispatch of a Technical and Vocational Education and Training (hereinafter referred to as “TVET”) Advisor (individual expert) with an aim of strengthening

capacity at INPP headquarters. As the technical cooperation project of this program, the Project was commenced with a three-year term in January, 2011.

## 1.2 Project Outline

The Project was implemented with the Project Purpose of “teaching skills of instructors of INPP, mainly those of the automobile department and refrigeration / air conditioning department, are improved”, and with the Overall Goal of “quality vocational training is offered by INPP mainly in the automobile department and refrigeration / air conditioning department”.

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| Overall Goal                                 | Quality vocational training is offered by INPP mainly in the automobile department and refrigeration / air conditioning department.  |  |
| Project Purpose                              | Teaching skills of instructors of INPP, mainly those of the automobile department and refrigeration / air conditioning department, are improved.   |  |
| Outputs                                      | Output 1   | Implementation system of the basic and common skills training is strengthened.   |
|  | Output 2   | Implementation system of the specialized skills training is strengthened. (Automobile department, refrigeration / air conditioning department) |
|  | Output 3   | Implementation system of the pedagogical skills training is strengthened.  |
| Total cost (Japanese Side)                   | 688 million yen  |  |
| Period of Cooperation                        | January, 2011 - December, 2013 (3 years)<br>Extension period: January - October, 2014 (10 months)  |  |
| Implementing Agency                          | Institut National de Préparation Professionnelle (INPP)  |  |
| Other Relevant Agencies / Organizations      | None   |  |
| Supporting Agencies / Organizations in Japan | Joint venture comprising Oriental Consultants Co., Ltd. and the Overseas Vocational Training Association   |  |
| Related Projects                             | TVET Advisor (individual expert, dispatched intermittently during January 2010 - December 2014), Project on strengthening the capacity of National Institute of Professional Preparation (technical cooperation, 2015- 2020), the Project for Expansion of INPP Kinshasa Provincial Direction (grant aid, 2012-2014) |  |

## 1.3 Outline of the Terminal Evaluation

### 1.3.1 Achievement Status of Project Purpose at the Terminal Evaluation

Since almost all of the indicators have been achieved, it was judged that there has been a high degree of achievement of the Project Purpose. However, since it was not possible to conduct training using equipment supplied in the refrigeration / air conditioning field, further strengthening was deemed necessary in training guidance skills.

### 1.3.2 Achievement Status of Overall Goal at the Terminal Evaluation (Including other impacts)

Since the results of trainees improved, a higher ratio of trainees felt that the INPP training was useful, and the level of satisfaction of enterprises increased, it was judged that the quality of training at INPP has been improved and there was a strong likelihood that the Overall Goal will be achieved.

### 1.3.3 Recommendations from the Terminal Evaluation

The following recommendations were made to INPP with a view to boosting effectiveness of the activities following completion of the Project:

- Formulation of an INPP plan for the continuous implementation of instructors' training
- Formulation of the future implementation policy for basic and common skills training and pedagogical skills training
- Improvement of the training evaluation system based on the mechanism for instructors' training evaluation
- Initiatives geared to strengthening of functions at INPP local institutes (analysis of training needs, construction and installation of facilities and equipment, and training of instructors)

## **2. Outline of the Evaluation Study**

### **2.1 External Evaluator**

Hajime Sonoda (Global Group 21 Japan, Inc.)

### **2.2 Duration of Evaluation Study**

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

Duration of the Study: August, 2017 - December, 2018

Duration of the Field Survey: January 25 - March 6, 2018 and June 12 - June 21, 2018

The external evaluator for the Project also conducted the ex-post evaluation for the Grant Aid Project that was implemented in tandem with the Project. Because the implementing agency and related agencies for both projects overlapped, the evaluation was conducted together, however, separate ex-post evaluation reports have been made for each project. This report targets the Project (technical cooperation project).

### 3. Results of the Evaluation (Overall Rating: A<sup>3</sup>)

#### 3.1 Relevance (Rating: ③<sup>4</sup>)

##### 3.1.1 Consistency with the Development Plan of the DRC

At the time of planning (2010), the importance of vocational training for stabilizing the macro economy, building growth, improving access to social services, and supporting vulnerable members of society was stressed in *the Growth and Poverty Reduction Strategy Document* (DSCR 2006), which was the national development plan of the DRC. Moreover, “improvement of employment and labor” was included among “five priority issues” that the government had earmarked as important policies for growth of the economy.

In the DRC’s *Second Poverty Reduction Strategy Document* (DSCR 2, 2011-2015), the priority issues were: strengthening of governance and peace, diversification of the economy, acceleration of growth and promotion of employment, improvement of access to basic social services, human resources development, environmental protection, and measures to address climate change. In the inaugural speech given by the President in 2011, strengthening of human resources was cited as one of the government’s main goals.

As such, relevancy of the Project to the development policies of the DRC was high both at the time of planning and the time of project completion (October 2014).

##### 3.1.2 Consistency with the Development Needs of the DRC

At the time of planning, the unemployment rate in the DRC was in excess of 50% and was especially high among young people. The extreme levels of unemployment in cities with a high population growth rate were a factor behind deteriorating public order in the cities. Moreover, an important issue for the government was to help large numbers of internally displaced people and discharged soldiers produced by the civil strife in the country to return to society through vocational training. Hence, it was indispensable to promote capacity building through vocational training to enable such people to participate in social and economic activities. While INPP provided vocational training at institutes in the capital Kinshasa and regional areas, because it had been unable to recruit instructors during the age of civil strife, it faced a shortage of mid-career instructors. Moreover, training equipment was deteriorated, and the capacity of buildings was limited. These and other factors meant that it was unable to conduct high-quality vocational training, making it urgently necessary to address the capacity building of INPP. Since then, unemployment rates have continued to rise in urban areas, meaning that the importance of vocational training has been sustained through to the time of completion of the Project<sup>5</sup>. Accordingly, relevance of the Project to the development needs of the DRC has

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<sup>3</sup> A: Highly satisfactory; B: Satisfactory; C: Partially satisfactory; D: Unsatisfactory

<sup>4</sup> ③: High; ②: Fair; ①: Low

<sup>5</sup> According to the National Development Strategy 2017-2021 (draft at the time of ex-post evaluation), the unemployment rate in urban areas has increased from 28.4% in 2005 to 30.9% in 2012 and 46.8% in 2017.

remained high both at the time of planning and at the time of its completion.

### 3.1.3 Consistency with Japan's ODA Policy

At the time of planning, the Project was part of the vocational training program within the priority sector of "Economic development" and the development issue of "Employment promotion" in the Government of Japan's Rolling Plan for the DRC. In the Yokohama Action Plan that was adopted at the 4<sup>th</sup> Tokyo International Conference on African Development in 2008<sup>6</sup>, it was stated that "training of human resources to support industrial sectors will be promoted through the expansion of technical education and vocational training institutions" within the "post basic education and advanced education/research" field, so this project is consistent with this plan.

To sum up, this project was 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 Effectiveness and Impacts <sup>7</sup> (Rating:③)

### 3.2.1 Effectiveness

#### 3.2.1.1 Achievement of Outputs and the Process<sup>8</sup>

##### (1) Basic and common skills training (Output 1)

In the Project, the targets of specialized skill training were limited to the automobile department and refrigeration / air conditioning department. However, considering the desire of INPP to broadly strengthen capacity also in other departments, training for the instructors concerning basic subjects in the machinery, electric and electronic fields was implemented as the basic and common skills training in the six departments of electricity, electronics, machinery, automobile, refrigeration / air conditioning, and welding / plating<sup>9</sup>. Through this training, instructors are able to acquire basic knowledge in multiple fields. For example, instructors in the machinery department learn how to repair simple electronic circuits, conduct welding. Technical and Vocational Training Center Senegal-Japan that was established in 1984 under JICA assistance cooperated in conducting third-country training and dispatching third-country experts, and 16 core trainers were prepared using training equipment that was supplied to INPP Kinshasa. These core trainers subsequently conducted basic and common skills training for 160 instructors (79 from INPP Kinshasa and 81 from local institutes). As instruction plans and teaching

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<sup>6</sup> The Tokyo International Conference on African Development (TICAD) is a regularly staged initiative for African development co-hosted by the Government of Japan, the United Nations, the African Union, and the World Bank. TICAD I was staged in 1993, and conferences have been regularly held ever since.

<sup>7</sup> Sub-rating for Effectiveness is to be put with consideration of Impact.

<sup>8</sup> The degree of achievement of each output is attached at the end of the report.

<sup>9</sup> These ideas for training emerged in discussions between INPP and the TVET Advisor who was dispatched prior to the Project.

materials underwent evaluation and revision four times and the instructors that received training expressed a high degree of satisfaction, it is deemed that the output concerning “strengthening of the implementation system for basic and common skills training” was sufficiently achieved.

According to interviews with INPP instructors<sup>10</sup>, the basic and common skills training had the following merits and made an important contribution towards achieving the Project Purpose.

- Instructors can promptly make simple repairs of equipment without having to ask other departments.
- Instructors can respond to diverse questions from trainees with confidence.
- Because instructors can use PCs, they can perform efficient lessons using multimedia.
- Since a single instructor can address numerous fields, dispatch training in enterprises can be implemented efficiently with small numbers.
- The above merits contributed to enhance the confidence and desire for betterment among instructors, boosted trust among enterprises and trainees, and consequently resulted in more training requests from enterprises.
- It became easier for instructors to switch department in charge as necessary according to changes in demand for training.

## (2) Specialized skills training (Output 2)

### ① Automobile department

In the automobile department, nine core trainers were prepared through training in Japan and expert dispatches. Instructors’ training was implemented for 41 instructors (19 in INPP Kinshasa, and 22 in local institutes). However, due to cancellation of the first year’s training in Japan because of the Great East Japan Earthquake, and a one-year delay in the expert dispatch because a suitable expert couldn’t be found, the scope of technical transfer was mainly limited to electronically controlled gasoline engines, and it wasn’t possible to cover the entire technical scope that needs to be covered by the automobile department including diesel engines, chassis and other aspects. For this reason, in the “Project on Strengthening the Capacity of INPP” (hereinafter referred to as “the Follow-up Technical Cooperation Project”), which was started in 2015, additional support was needed in the automobile department<sup>11</sup>. According to the core trainers in the automobile department, the expert mainly provided theoretical instruction but could not conduct sufficient practical training. Moreover, although it was scheduled for much of the training equipment in the automobile department to be procured through the Grant Aid Project, its implementation was delayed due to the Great East Japan Earthquake. Part of the

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<sup>10</sup> In the ex-post evaluation, interviews were conducted with the heads of target departments (electricity, electronics, machinery, automobile, refrigeration and air conditioning, welding and plating) at INPP Kinshasa, and interviews (personal or telephone) were conducted with the department heads and instructors at nine local institutes (19 persons in the automobile, refrigeration and air conditioning, and machinery departments).

<sup>11</sup> According to the report by the automobile expert in the Project, out of 55 technical transfer items, only 31 items were completed in the training for core trainers.

training equipment was supplied behind schedule in the Project, and it was not possible to sufficiently implement practical training using the equipment.

All of the PDM indicators in the automobile department (implementation of training, degree of satisfaction of instructors that received training, preparation and revision of instruction plans and teaching materials) were achieved<sup>12</sup>. However, it is difficult to consider that the achievement of indicators immediately means attainment of output at the automobile department, as there are no descriptions or indicators in the PDM that define the planned scope of technical transfer. Accordingly, it is deemed that the output concerning “strengthening of the implementation system for specialized skills training in the automobile department” was partially achieved.

## ② Refrigeration / air conditioning department

Since no expert could be found available for dispatch to the refrigeration / air conditioning department, five core trainers were trained via training in Japan over three years, and instructors’ training was implemented for 12 instructors (four from INPP Kinshasa and eight from local institutes). According to the core trainers, the training in Japan was on the whole good, although it was not possible to conduct sufficient practical training in part of the necessary technical scope, for example; automatic control of industrial air-conditioning systems, multiple packaged air-conditioning systems in buildings, etc. Moreover, due to delays in the construction of facilities in the Grant Aid Project, it wasn’t possible to implement the scheduled instructors’ training by core trainers using the training equipment that was planned for procurement in the final year. Accordingly, the instructors’ training was conducted using existing practical equipment (equipment for actual service rather than for training purpose), it wasn’t possible to conduct sufficient practical training for some items such as central air conditioning systems. It is thought that this is the reason why performance in the refrigeration / air conditioning department regarding the indicator ② for Project Purpose did not attain the target (described later). Moreover, following the installation of equipment in 2014, while it was planned to dispatch a short-term expert to assist with creating curriculums and give instruction on methods for utilizing equipment for industrial air conditioning systems and central air conditioning systems, it was not possible to find a suitable expert to do this.

In the refrigeration / air conditioning department, as was also the case in the automobile department, all the PDM indicators were achieved. However, as described above, since technical transfer was insufficient for some items, it cannot be said that the technical transfer in this department was sufficiently achieved. Accordingly, it is deemed that the output concerning

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<sup>12</sup> The PDM (Project Design Matrix) is a general description of the project that states the project activities, the resulting outputs, the goals to be strived for (Project Purpose), the superior objective (Overall Goal), external risks, indicators for objectively measuring the level of achievement of the outputs and goals, and so on.



“strengthening of the implementation system for specialized skills training in the refrigeration / air conditioning department” was largely achieved.



Left: an examination in progress (refrigeration / air conditioning department)

Right: practical training (automobile department)

### (3) Training in pedagogical skills (Output 3)

The expert trained seven core trainers comprising six at Kinshasa and one at a local institute. The core trainers were employees of the pedagogical departments at INPP Kinshasa and INPP Boma, and at headquarters. The core trainers implemented instructors’ training for 80 instructors (34 from INPP Kinshasa and 46 from local institutes) on topics such as; development of a training plan based on CUDBAS method<sup>13</sup>, preparation of instruction plans and teaching materials, approaches to advancing lessons and handling trainees, training evaluation method and so on. The instruction plans and teaching materials for the training in pedagogical skills underwent evaluation and revision two times and the instructors that received training expressed a high degree of satisfaction. Therefore, it is deemed that the output concerning “strengthening of the implementation system for training in pedagogical skills” was sufficiently achieved.

According to the instructors of INPP headquarters, INPP Kinshasa and local institutes, the training in pedagogical skills conducted in the Project had the following merits and made an important contribution towards achievement of the Project Purpose.

- It became possible to systematically and efficiently carry out development of training programs, preparation of instruction plans and teaching materials attuned to the needs of the target trainees, and evaluation of the training.
- Concerning the training for enterprises, it became possible to individually assess the needs of each enterprise and prepare training programs accordingly.

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<sup>13</sup> CUDBAS: A Method of Curriculum Development Based on Vocational Ability Structure. This entails writing the abilities of persons who are about to receive vocational training, structurally sorting them, and developing an effective curriculum. It can be applied to the development of short-term training curriculums as well as long-term education curriculums such as at universities.

- With the changed approach to instruction and handling of trainees, the goals of training were clarified, and careful instruction geared to the goals came to be implemented in accordance with the level of understanding and learning of each trainee.

### 3.2.1.2 Achievement of Project Purpose

Concerning the Project Purpose of “teaching skills of instructors of INPP, mainly those of the automobile department and refrigeration / air conditioning department, are improved”, three indicators were set as shown in Table 1. Considering that the degree of achievement of these three indicators was generally high<sup>14</sup>, and that the degree of achievement of the outputs was also generally high, it is deemed that the Project largely achieved its purpose.

Table 1 Achievement of Project Purpose

| Project Purpose   | Teaching skills of instructors of INPP, mainly those of the automobile department and refrigeration / air conditioning department, are improved. <Largely achieved>   |
|---|---|
| Indicator   | Actual  |
| ① 80% or more instructors who receive basic and common skills training obtain 3 or higher point out of 5 point for knowledge and skills on the basic and common field at the evaluation by the Project. | 95% and 94% of instructors received a ranking of 3 or higher point out of 5 point in the ex-post evaluation after the training and the assessment conducted after the training by core trainers, respectively. <Achieved>   |
| ② 80% or more instructors who receive specialized skills training obtain 3 or higher point out of 5 point for knowledge and skills on the specialized fields at the evaluation by the Project.          | 95% and 76% of instructors in the automobile department and refrigeration / air conditioning department respectively received a ranking of 3 or higher point out of 5 point in the ex-post evaluation after the training, while 84% and 69% respectively received a ranking of 3 or higher point out of 5 point in the assessment conducted after the training by core trainers. <Largely achieved> |
| ③ 80% or more instructors who receive pedagogic skills training obtain 3 or higher point out of 5 point for knowledge and skills on the pedagogic field at the evaluation by the Project.               | 98% and 100% of instructors received a ranking of 3 or higher point out of 5 point in the ex-post evaluation after the training and the assessment conducted after the training by core trainers, respectively. <Achieved>  |

Source: Materials provided by JICA and INPP.

Note: Performance of indicators is based on final performance values from the Project Completion Report.

## 3.2.2 Impact

### 3.2.2.1 Achievement of Overall Goal

#### (1) Achievement of the Overall Goal

The Overall Goal of the Project was “quality vocational training is offered by INPP mainly in the automobile department and refrigeration / air conditioning department”, and the following indicators were set.

<sup>14</sup> Indicator ② concerning the specialized skills training assesses the knowledge and skills of instructors over the scope for which training was implemented, but not the overall field of expertise.

Table 2 Achievement of the Overall Goal

| Overall Goal  | Quality vocational training is offered by INPP mainly in the automobile department and refrigeration / air conditioning department<br><Largely achieved> |             |  |
|---|--|-------------|--|
| Indicator and the Actual Results  |  |             |  |
| Indicator 1: Evaluation of training by instructors who receive training in pedagogical skills improve.  |  |             |  |
| <Results><br>Scores out of 100 increased from 72.6 at the start of the Project to 75.8 at the time of completion.<br>(Actual data could not be acquired at the time of the ex-post evaluation). |  |             |  |
| Indicator 2: Final examination results (out of 100) in the target departments at INPP Kinshasa improve compared to at the start of the Project.   |  |             |  |
| <Results>   |  |             |  |
|   | <u>2011</u>  | <u>2013</u> | <u>2018</u>  |
| Automobile department: gasoline engines   | 55.0 points  | 59.6 points | 57.2 points  |
| Automobile department: automotive electricity   | 59.7 points  | 62.5 points | 64.2 points  |
| Refrigeration / air conditioning department   | 50.0 points  | 58.8 points | 57.4 points  |
| Indicator 3: The degree of satisfaction of trainees who complete training in the target departments at INPP Kinshasa improves on the training.  |  |             |  |
| <Results>   |  |             |  |
| Degree of satisfaction of trainees who completed the training<br>(ratio who responded very satisfied or satisfied)  |  |             |  |
|   | <u>2011</u>  | <u>2013</u> | <u>2018</u>  |
| Training contents   | 95.0%  | 95.4%       | Refrigeration / air conditioning; 86.7%<br>Automobile; 93.5%   |
| Training equipment  | 75.6%  | 75.3%       | Refrigeration / air conditioning; 83.3%<br>Automobile; 92.3%   |
| Usefulness for finding employment   | 84.4%  | 90.2%       | Refrigeration / air conditioning; 100.0%<br>Automobile; 100.0% |
| Indicator 4: The employment rate (entrepreneurship and employment) of trainees who have completed training at INPP Kinshasa increases compared to at the start of the Project.                  |  |             |  |
| <Results>   |  |             |  |
| Employment rate of graduates between 6-14 months after training   |  |             |  |
|   | <u>2011</u>  | <u>2013</u> | <u>2018</u>  |
| Automobile department   | 9.7%   | 13.7%       | 14.5%  |
| Refrigeration / air conditioning department   | 22.3%  | 21.0%       | 7.3%   |
| Indicator 5: The degree of satisfaction regarding the training contents among enterprises that receive graduates from the target departments at INPP Kinshasa improves.                         |  |             |  |
| <Results>   |  |             |  |
| Ratio of enterprises that answered that the “INPP training complies with needs in enterprises”  |  |             |  |
|   | <u>2011</u>  | <u>2013</u> | <u>2018</u>  |
|   | 90%  | 93.7%       | 90%  |

Source: Materials provided by JICA and INPP, and telephone survey in the ex-post evaluation.

Note: In the Project, a baseline survey (2011) and end-line survey (2013), which entailed telephone interviews of trainees who had completed the training and related enterprises, were implemented. At the time of the ex-post evaluation, a telephone survey using the same questionnaire form was implemented in February and March, 2018.<sup>15</sup> The performance figures for Indicators ③-⑤ are based on the results.

<sup>15</sup> In the telephone survey of training graduates, ex-trainees between 6 and 14 months following the completion of training were randomly selected based on the list at INPP Kinshasa from the automobile department (220 persons) and refrigeration / air conditioning department (150 persons). In addition to the questions from previous surveys, the former trainees were asked about their level of satisfaction regarding the various aspects of the training at INPP (facilities, equipment, instructors, services of education affaires, etc.). In the telephone survey of enterprises, a total of 150 enterprises were randomly sampled. These comprised 50 enterprises selected from a list of enterprises that had utilized INPP in-service training of the automobile department and refrigeration / air conditioning department and another 100 enterprises selected from the register of the Federation of Enterprises of Congo (FEC). In addition to the questions from previous surveys, the enterprises were asked to give their opinions on changes in training at INPP over the past five years.

The results of evaluation of training by instructors who received training in pedagogical skills (Indicator ①) increased between the start and completion of the Project, while, no data was obtained at the time of the ex-post evaluation. Final examination results in the target departments at INPP Kinshasa (Indicator ②) improved slightly. However, because the method of marking changed after examiners selected from private company employees were introduced after the completion of the Project in response to advice given by the TVET Advisor, the results at the time of ex-post evaluation cannot be simply compared to those from 2013.

The degree of satisfaction of trainees who have completed the training (Indicator ③) is generally high. As the background as to why the degree of satisfaction with equipment increased from 2013 onwards, progress has been made in the installation of training equipment following construction of a training building in the Grant Aid Project in 2014. According to interviews with trainees who have completed the training and current trainees<sup>16</sup>, there is a high degree of satisfaction with facilities and equipment, and instructors' knowledge and teaching methods are rated extremely highly. INPP Kinshasa is regarded as almost the only vocational training institution in the city that can conduct proper practical training, and it attracts a lot of trainees who are considering advancing to colleges that cannot offer sufficient practical training, and graduates of such colleges who seek better practical training. Moreover, numerous respondents said that instructors at INPP Kinshasa have a reputation for carefully teaching trainees until they can acquire skills. On the other hand, some respondents said that the training costs are high and that it is troublesome having to pay monthly fees by bank transfer.

The employment rate of trainees who have completed the training (Indicator ④) in the automobile department displayed gentle improvement between project completion and the time of ex-post evaluation. Meanwhile, in the refrigeration / air conditioning department, the employment rate declined following project completion. The reasons for this could not be identified. In any case, since employment rate is largely determined by business conditions, it is deemed to be something that doesn't directly reflect the "quality of INPP training" that is the Overall Goal<sup>17</sup>. INPP Kinshasa is reinforcing the support it offers for placement and entrepreneurship among trainees who have completed the training<sup>18</sup>. In both departments, one

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<sup>16</sup> 12 group interviews targeting in total approximately 70 current trainees and 30 former trainees from the six related departments were implemented.

<sup>17</sup> The GDP growth rate of the DRC in 2013-2014 reached almost 9%. However, due to decline in the international prices of mineral resources, which account for the country's main exports, and sluggish investment brought about by political instability, the GDP growth rate fell to 6.9% in 2015 and 2.4% in 2016. Moreover, according to INPP and the Association of Refrigeration and Air Conditioning Engineers of the DRC (private group), since refrigeration and air conditioning devices are luxury items and have a lot of corporate users, compared to automobiles, it is possible that they have felt the impact of the recent business decline more keenly.

<sup>18</sup> The advisory bureau (Bureau de Conseillers) functions as an education affairs section offering careers and study advice to trainees and prospective trainees. In addition, at the suggestion of the TVET Advisor, the advisory bureau at INPP Kinshasa started follow-up activities such as conducting career surveys of ex-trainees and acquiring feedback information from enterprises that recruit ex-trainees and so on from 2014. Manpower in the advisory bureau was greatly increased from 9 persons before the Project to 26 persons at the time of ex-post evaluation, and with receiving support of the Follow-up Technical Cooperation Project, in order to support employment and

out of 10 trainees who find employment start their own businesses. Moreover, 60% of former trainees practiced some repair works out of the institution, charged or not charged, following the completion of training.

The degree of satisfaction of enterprises that receive graduates from the target departments (Indicator ⑤) regarding the training contents declined slightly following project completion. However, it is being sustained at a high level at the time of the ex-post evaluation. According to telephone interviews with enterprises, 98% of enterprises responded that recruited INPP trainees have appropriate knowledge and skills. Moreover, 50% of enterprises said that the INPP training had improved greatly compared to five years ago, with another 32% saying that it had improved slightly (the remaining 18% said that it had not changed).

According to INPP and the interviews with enterprises in Kinshasa<sup>19</sup>, the perception that INPP Kinshasa conducts good training is widespread even among small enterprises that do not utilize INPP services (enterprises that do not pay contributions)<sup>20</sup>. Many people said that it is widely known that JICA cooperates with INPP and this enhances the trust placed in it. However, all of the owners of enterprises that do not pay contributions, and even some of the owners of enterprises that do pay contributions said that they have no specific information on training programs and training charges at INPP Kinshasa<sup>21</sup>. Numerous respondents in the company interviews voiced needs for training in new technologies that are gradually spreading through industry, for example, multiple packaged air-conditioning systems in buildings, automatic control of industrial air-conditioning systems, common rail fuel injection in diesel engines and so on.

Meanwhile, according to interviews with instructors in local institutes, improvements in pedagogical skills and the quality of training were observed in their institutes mainly in the automobile department and refrigeration / air conditioning department in the same way as at INPP Kinshasa. While, there are many new instructors who have not yet received basic and

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entrepreneurship, it conducts mediation with internship receiving organizations, stages employment orientation seminars, entrepreneurship seminars, establishes department-separate alumni associations, arranges business startup funds and other activities.

<sup>19</sup> Interviews were implemented with Federation of Enterprises of Congo (FEC), National Federation of Craftsmen, Small and Medium Enterprises of Congo (FENAPEC), six enterprises (including one government organization) that utilize ongoing training at INPP, and eight other enterprises (that have not used INPP's ongoing training).

<sup>20</sup> Based on the law concerning compulsory contributions to INPP by company owners (October 1984) and the law concerning the ratio of company contributions (February, 2006), enterprises of a certain size are required to pay contributions to INPP. In Kinshasa, the Fund Collection Department at INPP headquarters collects contributions, while local institutes conduct collections in the regions.

<sup>21</sup> Concerning cooperation with enterprises in Kinshasa, the Advisory Bureau at INPP Kinshasa conducts company visits (see footnote 18), while the Fund Collection Department also regularly visits enterprises to confirm contribution payments, listens to general requests regarding training and provides information on the training. The Advisory Bureau of INPP Kinshasa holds more specific information about the institute's training programs and can directly collaborate and coordinate with instructors, while, it cannot make frequent visits to enterprises due to constraints in means of transportation. On the other hand, the burden placed on the Fund Collection Department to collect funds is being lessened in recent years following the start of automatic transfers for INPP contributions together with public insurance payments. As was mentioned earlier, since it appears that specific training information from INPP Kinshasa is not reaching enterprises, it is deemed necessary to sort the respective roles of the Advisory Bureau and the Fund Collection Department at INPP Kinshasa.

common skills training and training in pedagogical skills, and constraints still remain concerning facilities and equipment for training. Accordingly, the degree of achievement of the Overall Goal in local institutes at the time of ex-post evaluation is lower than at INPP Kinshasa<sup>22</sup>.

To sum up, it is deemed that the Overall Goal “quality vocational training is offered by INPP mainly in the automobile department and refrigeration / air conditioning department” has been largely achieved.

## (2) Continuation of activities following project completion

The number of core trainers prepared in the Project was 37, comprising 29 at INPP Kinshasa and eight at the local institutes. At the time of the ex-post evaluation, as the number of core trainers conducting instruction was 30, comprising 22 at Kinshasa and eight at the local institutes, the number has generally remained steady (Table 3). Moreover, out of the 37 core trainers, all of the members except for one who passed away are still working with INPP at the time of the ex-post evaluation<sup>23</sup>.

Table 3 Number of Core Trainers  
(at project completion and ex-post evaluation)

|   | At project completion |         |       | At ex-post evaluation |         |       | Changes |
|---|-----------------------|---------|-------|-----------------------|---------|-------|---------|
|   | Kinshasa              | Regions | Total | Kinshasa              | Regions | Total |         |
| Basic and common skills training            | 13                    | 3       | 16    | 6                     | 0       | 6     | 10 less |
| Automobile department                       | 6                     | 3       | 9     | 5                     | 3       | 8     | 1 less  |
| Refrigeration / air conditioning department | 4                     | 1       | 5     | 2                     | 3       | 5     | Same    |
| Pedagogical skills training                 | 6                     | 1       | 7     | 9                     | 2       | 11    | 4 more  |

Source: Prepared by the ex-post evaluator based on materials provided by INPP

<sup>22</sup> JICA has assisted the construction of facilities and installation of equipment at INPP Lubumbashi (one of targets of the Project) in the grant aid project “Project for Expansion of INPP Katanga Provincial Direction in Lubumbashi” (2015). Also, the Government of Japan is aiding three local institutes (all targets of the Project) utilizing the Grant Assistance for Grassroots Human Security Projects (rehabilitation of the training building at Kisangani Institute, 2011, approximately 9,100,000 yen) and utilization of counterpart funds (construction of the training building at Goma Institute, 2012, approximately \$460,000, construction of the training building at Mbuji-Mayi Institute, 2015, approximately \$2,000,000). In addition, at the time of ex-post evaluation, France is building facilities and implementing training at INPP headquarters and local institutes; China is building facilities; Egypt and the African Development Bank are constructing facilities; and the World Bank is examining the formation of new aid programs including the supply of equipment. It is anticipated that such construction and installation of facilities and equipment can generate synergy with the capacity building of instructors in the Project at local institutes.

<sup>23</sup> As for the basic and common skills training, nine core trainers became unavailable due to promotions and transfers to local institutes, while they can be recalled if the need arises. All nine of the core trainers trained in the automobile department have remained in INPP, and eight of the most capable core trainers underwent ongoing capacity building in the Follow-up Technical Cooperation Project. In the refrigeration / air conditioning department, in addition to five core trainers prepared at INPP Kinshasa, another five were trained at local institutes following project completion, making 10 in total, although five of these subsequently became core trainers in other fields. The core trainers received additional training in pedagogical skills in the Follow-up Technical Cooperation Project.

The core trainers continue to implement instructors' training following project completion. The conditions regarding implementation of training are described below.

- Concerning basic and common skills training, 46 instructors of relevant fields received training following project completion. However, there are still more than 100 new instructors, mostly at local institutes, who have not yet received the training. Since basic and common skills training needs to be implemented at INPP Kinshasa which has the necessary equipment, the high costs of transport to Kinshasa and accommodation expenses has been a constraint for instructors from local institutes. To address this, INPP has plans to advance the installation of equipment and assignment of core trainers at local institutes so that it will be possible for basic and common skills training to also be implemented in the regions without too much cost.<sup>24</sup> Moreover, in interviews with core trainers, some voices called for review of the basic and common skills training contents in light of practical experience gained in recent years.
- In the automobile department, following completion of preparation of core trainers in the Follow-up Technical Cooperation Project, it is scheduled for instructors' training to be implemented, making it possible to address the fields that could not be fully covered in the Project.
- In the refrigeration / air conditioning department, due to the switching of specialties by instructors from other fields, instructors' training targeting 32 persons (eight from INPP Kinshasa and 24 from three local institutes) is being advanced based on OJT (on-the-job-training) and is scheduled to finish during 2018. The head of the department pointed out the need to utilize equipment and incorporate new technologies (mentioned earlier) requested by industry in the instructors' training from now on.
- Following project completion, 75 instructors received training in pedagogical skills over five courses. However, there are still more than 100 new instructors who have not yet received the training. Accordingly, INPP plans to continue the training in teaching methods with a view to training all instructors during 2018<sup>25</sup>. Moreover, technical transfer in curriculum development techniques including creation of instruction plans and work standards has been conducted in the Follow-up Technical Cooperation Project, and it is scheduled for the manual on training in teaching methods to be revised.

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<sup>24</sup> In the instructors' training in the Project, JICA bore the flight expenses for instructors participating out of local institutes, while INPP bore the other expenses (accommodation expenses, meal allowance, etc.). Domestic round-trip airfares in the DRC are quite expensive at between \$500-600. See footnote 22 concerning equipment installation at local institutes.

<sup>25</sup> Since training in pedagogical skills that does not require equipment can be implemented through dispatching core trainers to institutes, costs are lower and financial constraints are smaller than in basic and common skills training.

### 3.2.2.2 Other Positive and Negative Impacts

#### (1) Establishment of the PDCA cycle

According to INPP, through repeating the cycle of training planning, implementation, evaluation, and feedback in the fields of basic and common skills, automobiles, refrigeration / air conditioning, and pedagogical skills by the Project, mechanism for managing instructors' training based on the PDCA cycle has become established. This mechanism became institutionalized in the shape of the training improvement committee and working groups on each field, which were established in the Project, and these institutions continue to be maintained at the time of the ex-post evaluation<sup>26</sup>. Moreover, at INPP Kinshasa, through conducting follow-up survey (baseline survey, end-line survey, etc.) of the ex-trainees and quantitative assessment of the instructors' training in the Project, the importance of data-based analysis was recognized, and attention came to be focused on what kind of results the training imparted for trainees, how the results of training were utilized in enterprises, how the needs of enterprises can be addressed and so on. Furthermore, under a proposal made by the experts in the Project, a 5S working group was established<sup>27</sup>, and ongoing 5S activities are being advanced as extra-PDM activities. At INPP headquarters, at the suggestion of the TVET Advisor, INPP came to prepare an annual plan of activities, and responsible officers from around the country gathered each year to confirm and assess implementation and reflect their findings in the plan of activities for the following fiscal year. Moreover, since the activities of the Project and TVET Advisor were often integrated, these are deemed to be a synergistic effect with the TVET Advisor.

#### (2) Enhanced assessment of INPP

According to interviews with INPP, enterprises, current trainees, and ex-trainees, it has become widely known throughout industrial circles and the general population of the DRC that INPP's capacity has been reinforced in both hard and soft terms as a result of the JICA's vocational training program, and this has enhanced the reputation of INPP and its level of trust among enterprises. In particular, it is thought that the new training facilities and equipment constructed and installed under the Grant Aid Project are gaining a lot of attention. According to INPP, this has led to increased dispatches of trainees and payment of contributions from enterprises<sup>28</sup>. Moreover, attention has come to be directed to INPP as a potential recipient for

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<sup>26</sup> According to INPP, a "training dissemination committee", "industrial cooperation committee" and "employment and entrepreneurship support committee" have been established at the suggestion of the TVET Advisor, and operating capacity has been strengthened not only in the target departments of the Project but also INPP overall through repeating the PDCA cycle based on cooperation between the INPP departments, between INPP Kinshasa and the local institutes, and between INPP and enterprises.

<sup>27</sup> 5S refers to five words that express behaviors and conditions that need to be thoroughly followed in workplace management. They are: Sort (Seiri), Set in Order (Seiton), Shine (Seisou), Standardize (Seiketsu) and Sustain (Shitsuke).

<sup>28</sup> Revenue from company contributions between 2013 and 2016 increased by almost 80% (see section 3.4.4



assistance and it is possible that this has contributed to the formation of new aid projects by other donors, not only JICA (see footnote 22). The Director of INPP has expressed deep satisfaction at the JICA's vocational training program including the Project for the role it has played in driving INPP's major progress since 2011<sup>29</sup>.

### (3) Social and environmental impacts

According to interviews with ex-trainees, even though opportunities to find employment or start businesses are limited, a positive stance of utilizing the knowledge and skills acquired in the training to positively participate in society was frequently observed. Concerning gender, only 2% of trainees at the target departments in the Project are women, while, there are more women in other departments such as beauty and sewing, hotels and cuisine, and computers, and women account for 30% of trainees overall. INPP is considering measures to increase women's participation in courses on technical subjects including the courses held by the target departments of the Project. No particular impacts were confirmed on the natural environment.

To sum up, the Project Purpose "teaching skills of instructors of INPP, mainly those of the automobile department and refrigeration / air conditioning department, are improved" was largely achieved as a result of project implementation. Also, concerning the Overall Goal, since high-quality training is provided in the automobile department and refrigeration / air conditioning department, planned effects have generally materialized. Accordingly, effectiveness and impact of the Project are high.

## **3.3 Efficiency (Rating:②)**

### 3.3.1 Inputs

The following table shows the planned and actual inputs in the Project by the Japanese side and the Democratic Republic of the Congo side.

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Financial Aspect for the Sustainability of Project Effects).

<sup>29</sup> According to ADIAC (Agence d'Information d'Afrique Centrale), which is a private media agency based in the DRC, in a survey targeting 1,000 persons including 300 company representatives between January and June, 2018, INPP received the highest rating of any public corporation in the DRC. This is largely thanks to the management skill of INPP Director Mr. Chikuya, who has advanced the construction and installation of facilities and equipment and capacity building of instructors at INPP Kinshasa and local institutes while accepting assistance from JICA and other donors.

(<http://www.adiac-congo.com/content/sondage-les-points-premier-semester-2018-ces-mandataires-publics-qui-ont-marque-lopinion>)

Table 4 Comparison of Planned and Actual Inputs in the Project

| Inputs   | Plan   | Actual (time of Project completion)  |
|--|--|--|
| <b>Inputs by the Japanese side</b>                         |  |  |
| (1) Expert dispatches                                      | Long-term experts: Chief advisor / training planning and management, operational coordination<br>Short-term experts: automobile, refrigeration and air conditioning, pedagogy, basic and common skills training (third country experts), baseline survey, etc.                         | Long-term experts: Chief advisor, operational coordination<br>Short-term experts: training planning, training planning and management of training, operation and maintenance, pedagogy, baseline survey, training evaluation, automobile, basic and common skills training (three third country experts) |
| (2) Trainees received                                      | (Unknown)  | Training in Japan: 13 persons<br>Third country training: 16 persons (Senegal)  |
| (3) Equipment supply                                       | (Unknown)  | AV equipment, training equipment, etc. (85 million yen)  |
| (4) Overseas project strengthening costs                   | (Unknown)  | Approximately 41 million yen (travel expenses, training costs)   |
| Japanese side<br>Total Project cost                        | Total approximately 550 million yen  | Total 688 million yen  |
| <b>Inputs by the Democratic Republic of the Congo side</b> |  |  |
| (1) Assignment of counterparts                             | Project director, Project manager, Project coordinator, counterparts (multiple)  | INPP headquarters: 32 persons<br>INPP Kinshasa: 37 persons<br>INPP local institutes: 3 persons   |
| (2) Others   | Office, facilities and equipment necessary for the Project implementation, other necessary facilities, expenses up to equipment maintenance and installation, training implementation costs at INPP (travel expenses and accommodation expenses in Kinshasa, per diem allowance, etc.) | Office, facilities and equipment necessary for the Project implementation, other necessary facilities, expenses up to equipment maintenance and installation, training implementation costs at INPP (travel expenses and accommodation expenses in Kinshasa, per diem allowance, etc.)                   |
| Congo side<br>Total Project cost                           | (Unknown)  | Total approximately 53 million yen   |

Source: Prepared by the evaluator based on materials provided by JICA

### 3.3.1.1 Elements of Inputs

The chief advisor and other experts (in charge of areas other than basic and common skills training and specialized technical training) included in the work implementation contract were generally dispatched as planned from February 2011. According to the counterparts (staff in charge in the implementing agency), the experts had appropriate capacity. In the basic and common skills training, third-country training was conducted in Senegal, and Senegalese experts were dispatched. It is presumed that this enabled costs to be suppressed compared to the case of conducting training in Japan and dispatching Japanese experts. According to the counterparts, the Senegalese experts had appropriate capacity and efficient training using French

was implemented. From July 2012, 18 months after the start of the cooperation, the automobile expert was dispatched and two batches of training in Japan were implemented. According to the counterparts, this expert had scant experience in the vocational training field, so the technology transfer tended to be theoretical. In the refrigeration / air conditioning department, technology transfer was conducted to the core trainers via three batches of training in Japan, however, due to delay in the installation of refrigeration / air conditioning equipment, it was not possible to sufficiently use the equipment in the instructors' training. Moreover, the expert dispatch for the refrigeration / air conditioning field that had been scheduled following the equipment installation was cancelled.

There was no overlapping between equipment in the Project and the Grant Aid Project, and it is thought that the equipment was supplied in a mutually supplementary manner thanks to coordination by the team of experts and the consultants for the Grant Aid Project. Due to the delay in the Grant Aid Project, part of the equipment for the automobile department that had been planned for supply in the Grant Aid Project was supplied under the Project.

#### 3.3.1.2 Project Cost

The total project cost of Japanese side was planned as approximately 550 million yen, but the actual cost exceeded this at 688 million yen (125% of the planned amount). Since the planned cost breakdown is unknown, the reason for the increase cannot be ascertained. One reason is considered to be the fact that due to the delay in the Grant Aid Project, part of the equipment (cost unknown) for the automobile department that was planned for supply in the Grant Aid Project had to be supplied under the Project.

#### 3.3.1.3 Project Period

The Project was scheduled to last for 36 months from November 2010 to October 2013. The Project was started two months behind schedule in January 2011. However, because construction of the training building under the Grant Aid Project was delayed by the influence of the Great East Japan Earthquake in March 2011, installation of training equipment for the refrigeration / air conditioning department in the said building was also delayed and was not finished until October 2014. The period of cooperation was 46 months (128% compared to the planned period).

To sum up, because the project cost was higher than the planned amount and the project period was longer than the planned period, the efficiency is fair.

### 3.4 Sustainability (Rating:③)

#### 3.4.1 Policy and Political Commitment for the Sustainability of Project Effects

In the Democratic Republic of the Congo's "*National Development Strategy 2017-2021*" (draft version at the time of ex-post evaluation), "Human resources, employment, and social welfare" is raised as one of four development axes, and it is intended to endow people with the knowledge, technology, and capacity required to participate in a creative and dignified labor market and society. Moreover, concerning Sustainable Development Goals (SDGs) 4: "Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all", the DRC aims to "greatly increase the ratio of young people and adults who are endowed with technical and vocational skills and the other capacity required for employment, fulfilling and humane work and entrepreneurship" and to "achieve total and productive employment and fulfilling and humane work for all men and women including young and disabled persons, and realize equal pay for equal work" by 2030.<sup>30</sup>

Meanwhile, in 2014 the government enacted *the Basic Education Act* in which it prescribed the framework of the education system including general education and vocational training. According to INPP, numerous government ministries and offices are involved with vocational training and it has taken time to review vocational training policies and strategy and review the practical division of roles of each relevant agency under the framework of the above mentioned Act. However, in 2018, a bill to establish a commission of national vocational certification was proposed at the suggestion of INPP. Positioned under the direct jurisdiction of the Presidential Office and participated in by more than 10 government ministries and offices, this commission is responsible for establishing standard curriculums for vocational training, prescribing standards for instructors, facilities and equipment and so on. It seems likely that establishment of the commission will be approved sometime in 2018.

To sum up, sustainability is high in terms of policy and systems, and INPP is deemed to play a central role in vocational training in the DRC.

#### 3.4.2 Institutional / Organizational Aspect for the Sustainability of Project Effects

As of December 2016, INPP has 36 training centers and 1,406 employees (of which 906 are technical staff such as instructors or practical training assistants) throughout the country. These figures represent major increases compared to 11 centers and approximately 300 employees in 2009.

The number of employees at INPP Kinshasa increased from 198 in October 2010 to 302 at the time of ex-post evaluation (January, 2018), with the number of technical employees increasing from 150 to 240. Moreover, in 2018, it newly established a photovoltaics department and greatly strengthened its personnel setup in the advisory bureau while receiving support

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<sup>30</sup> SDGs National Report (Ministry of Planning, 2016)

under the Follow-up Technical Cooperation Project. The setup for capacity building of instructors, whereby core trainers train the instructors, has remained unchanged since the time of planning, however, INPP intends to advance the assignment of core trainers to nucleus local institutes in line with the construction and installation of facilities and equipment at those centers. Moreover, to enhance the effectiveness of training and improve the efficiency of training administration at INPP Kinshasa, it is setting capacity levels (reducing class sizes) and advancing the standardization of training periods and timetables. The cleaning of facilities, which had been conducted by the cleaning and maintenance section of the protocol department of INPP Kinshasa, was outsourced following completion of the Grant Aid Project. The instructors and practical training assistants implement operation and maintenance of the equipment including the training equipment. All of the project equipment is controlled based on the equipment ledger kept in the inventory control section, and support for the strengthening of equipment control is conducted in the Follow-up Technical Cooperation Project.

Summing up, sustainability is high in terms of institutional and organizational aspects.

#### 3.4.3 Technical Aspect for the Sustainability of Project Effects

The retention rate of INPP employees is high and almost all of the Project counterparts are in continuous service. In the background to this, INPP salary levels are set higher than at other vocational training institutions, while it offers generous welfare and benefits as a government agency. The numbers of core trainers prepared in the project fields are largely sustained (see section 3.2.2.1 (2) Continuation of activities following project completion). Out of 30 core trainers, INPP has assigned eight to local institutes in an effort to strengthen its regional hubs. Moreover, instructors' training implementation manuals, training materials, training instruction plans that were created in the Project are still being utilized at the time of the ex-post evaluation. Meanwhile, in the Follow-up Technical Cooperation Project, technical transfer related to specialized training in pedagogical skills and the automobile department is continuing through improvement of training materials, training of core trainers, improvement of training plans and assessment methods and so on<sup>31</sup>.

Since INPP Kinshasa trainees highly rate the knowledge, skills and teaching methods of instructors (see section 3.2.2.1 (1) Achievement of the Overall Goal), it is thought that appropriate training is being continued regarding the scope of technology transferred in the Project. The instructors and practical training assistants conduct operation and maintenance of equipment, and, since instructors are in a position to teach operation and maintenance, this is not a problem technically. Moreover, as was mentioned previously, since the PDCA cycle has been established and executed through collaboration among departments within INPP, INPP

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<sup>31</sup> The refrigeration and air conditioning department is not included among the targets of the Follow-up Technical Cooperation Project.

Kinshasa and the local institutes, and INPP and enterprises, the operating capacity of INPP overall has been strengthened (see footnote 26).

To sum up, sustainability is high in terms of technical aspects.

#### 3.4.4 Financial Aspect for the Sustainability of Project Effects

INPP kept positive financial balance during 2014-2016 and its financial scale has increased by 31% during this period. (see Table 5). INPP is operated primarily on contributions from enterprises that are levied under legislation. Company contributions account for 90% of INPP's revenue, while revenue from the government budget accounts for less than 0.5%. According to INPP, the number of enterprises that pay contributions is increasing because they now place greater trust in INPP and appeals for finance have been strengthened. Revenue from contributions increased by more than 30% between 2014 and 2016. According to INPP, JICA's support including the Project and the new buildings of INPP Kinshasa have been widely known to enterprises, and the resulting increased trust among enterprises has contributed to the increased revenue.

Around 80% of INPP expenditure is spent on personnel expenses and other expenditure including welfare expenses, although there is also a high need for investment into construction and installation of facilities and equipment at local institutes. The amount of investment in 2015-2016 accounted for 12% of overall expenditure. Accordingly, INPP is striving to obtain donor support as a source of external finance (see footnote 22). Training of instructors is implemented based on the budget of INPP headquarters. While bringing instructors from local institutes to Kinshasa for training incurs major costs, it is being implemented a little at a time.

Table 5 INPP Financial Performance

(Unit:1,000,000 Congo francs)

|  | 2014          | 2015          | 2016          |
|--|---------------|---------------|---------------|
| <b>Revenue</b>                         | <b>30,652</b> | <b>33,973</b> | <b>39,617</b> |
| Enterprise contributions               | 27,236        | 30,992        | 36,307        |
| Training charges, state budget, others | 3,416         | 2,981         | 3,311         |
| <b>Expenditure</b>                     | <b>30,559</b> | <b>33,525</b> | <b>39,381</b> |
| Personnel expenses                     | 10,402        | 13,064        | 15,908        |
| Maintenance costs                      | 1,193         | 1,354         | 1,369         |
| Investment                             | 3,343         | 4,019         | 5,557         |
| Others (including welfare)             | 15,621        | 15,089        | 16,546        |
| <b>Balance</b>                         | <b>92</b>     | <b>448</b>    | <b>236</b>    |

Source: Prepared by the evaluator based on materials provided by INPP

Note: 1000 Congo francs is approximately 71 yen (July, 2018).

Because of rounding off, the total value may not agree with the sum of the values of each item.

The scale of finances at INPP Kinshasa increased to 135% between 2013 and 2016. Roughly half of its revenue comes from allocations from headquarters (largely obtained from company contributions), while the remainder is obtained from training charges and others. INPP Kinshasa is striving to boost revenue through selling products made by trainees in practical training at low prices and leasing in the open time some of the facilities (multipurpose hall, etc.) that were constructed under the Grant Aid Project. Maintenance costs at the institute increased to 158% between 2013 and 2016. No major financial constraints can be observed regarding the maintenance of facilities and equipment.

In the local institutes, company contributions and transfer from the headquarters (also derived from company contributions) account for almost 90% of revenue. Between 2013 and 2016, the scale of finances of the local institutes increased by 136%, while expenditure on maintenance increased by 125%. The local institutes have deteriorated facilities and equipment and, according to instructors at local institutes, the budget for construction, installation and maintenance of facilities and equipment is constrained.

Meanwhile, effects of the Project are sustained at a high level at the time of the ex-post evaluation (see section 3.2 Effectiveness and Impacts) and, apart from the fact that training for some newly recruited instructors still remains to be done, no financial constraints are in evidence.

To sum up, although there are some minor issues regarding sustainability in terms of the financial aspects, they are not deemed to be a problem affecting maintenance of the effects that were realized at the time of project completion.

To sum up, there are some minor financial constraints, but they impart no major impact on sustainability of the Project effects. Since there are no problems regarding policy, institutional, organizational and technical aspects, sustainability of the Project effects has been high.

## **4. Conclusion, Recommendations and Lessons Learned**

### **4.1 Conclusion**

The Project, a technical cooperation project, was implemented with the project purpose “teaching skills of instructors of INPP, mainly those of the automobile department and the refrigeration / air conditioning department, are improved”, and with the overall goal “quality vocational training is offered by INPP, mainly in the automobile department and the refrigeration / air conditioning department”. The importance of vocational training within the policies and development needs of the DRC was high at both the time of planning and the time of completion of the Project. Moreover, from the perspective of expanding vocational training opportunities, the Project was highly relevant to Japan’s ODA policy at the time of planning. Based on the above, the relevance of the Project is high. As a result of the Project, implementation

system of training for instructors was strengthened on basic and common skills, pedagogical skills, and specialized skills in the automobile department and refrigeration / air conditioning department, and the evaluation on the training by trainees and enterprises was improved. Therefore, it is deemed that the quality of INPP's training was improved. Other improvements observed were establishment of the PDCA cycle at INPP, and a more favorable evaluation of INPP by industrial circles, etc. To sum up, the effectiveness and impact of the Project are deemed to be high. Against the background of delay to the Grant Aid Project caused by the Great East Japan Earthquake, the Project period was longer than planned and the Project cost also exceeded the planned budget. Hence, the efficiency of the Project is fair. Concerning sustainability, while there were some minor financial constraints, there were no major impacts that affected sustainability of the effects that materialized on completion of the Project. Since there have been no problems regarding policy, system, institutional, and technical aspects, the sustainability of the Project is high.

In light of the above, this Project is evaluated to be highly satisfactory.

## **4.2 Recommendations**

### 4.2.1 Recommendations to INPP

#### Continuance of instructors' training

For INPP to utilize the outputs of the Project with a view to sustaining the quality of training at a high level, it needs to identify the instructors who are targeted but have not received basic and common skills training, specialized skills training (automobile department and refrigeration / air conditioning department) and pedagogical skills training, compile the training program, secure budget, and implement the training. It needs to strive to enable all persons to receive training as quickly as possible while paying attention to the following points.

- Basic and common skills training: Concerning the training contents implemented in the Project, collect the opinions of instructors in each target department and review the training contents. Compile 3 to 5-year training programs for INPP Kinshasa and core local institutes while paying attention to the condition (current and planned) of training equipment at the local institutes.
- Specialized skills training in the automobile department: Implement core trainers' training and instructors' training with support from the Follow-up Technical Cooperation Project.
- Specialized skills training in the refrigeration / air conditioning department: Assess the results of instructors' training based on OJT that will finish during 2018. Compile additional instructors' training plans where necessary upon analyzing the validity of



adding contents such as multiple packaged air-conditioning systems in buildings and other contents that are desired by industry.

- Pedagogical skills training: Upon reviewing the training contents based on outputs in the Follow-up Technical Cooperation Project, compile a training program for all instructors who have not yet received the training.

#### Strengthening of dissemination of information on training courses

In Kinshasa, not enough information on training courses at INPP Kinshasa reaches enterprises, neither those that pay INPP contributions nor those that do not (small enterprises and individual business owners). Since the reputation of INPP is already well established, it is necessary to disseminate specific information on the training courses. Therefore, it is necessary for INPP to examine methods for efficiently conveying specific information on training courses to potential users, of INPP Kinshasa as a model, through methods such as a website and social networking services.

#### Strengthening of linkage with industries

In order for INPP to advance efficient cooperation with associated enterprises, i.e. the enterprises that pay contributions and enterprises that allow employees to participate in training, and offer training that fits with the needs of enterprises, it needs to build a database that includes the histories of training use by enterprises and contact information of staff in charge of training<sup>32</sup>. Also, to ensure more practical and closer linkage between INPP and enterprises, in Kinshasa, the demarcation of roles of Fund Collection Department of INPP headquarters and Advisory Bureau of INPP Kinshasa, which are involved with company cooperation, should be reviewed and examination conducted to ensure that INPP Kinshasa (the training place) can play an even larger role.

#### 4.2.2 Recommendations to JICA

JICA should examine support for implementing the abovementioned recommendations over the possible scope via a Follow-up Technical Cooperation Project. In addition, it should examine the necessity and feasibility of other technical cooperation for assisting implementation of the above recommendations.

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<sup>32</sup> At the time of the ex-post evaluation, Fund Collection Department at INPP headquarters has a database of enterprises that pay contributions, while Advisory Bureau at INPP Kinshasa has a database of users from enterprises that utilize the training. However, as the two databases are not integrated and the contact information (telephone numbers, email addresses, staff in charge, etc.) is incomplete, there was difficulty conducting the telephone survey.

### **4.3 Lessons Learned**

#### Setting of indicators showing the scope of technology transfer

In technical cooperation projects, where it is necessary to systematically enhance technical capacity in target fields, indicators of the scope of technology transfer are required to enable explicit judgment of whether or not the necessary technology transfer has finished. In cases where experts need to make detailed examination and the scope of technology transfer cannot be defined before the start of cooperation, indicators should be set based on expressions such as “XX% or more of the necessary technology transfer items” and finalized after the cooperation has started. In the PDM of the Project, concerning the specialized technical training in the automobile department and refrigeration / air conditioning department, the targets of judgment based on indicators were limited to the scope of actual technology transfer implementation, but there were no indicators for explicitly showing how much scope of the necessary technology was covered. As a result, in the terminal evaluation, it was deemed that the outputs in both departments had been “achieved”, even though part of the technology transfer was still incomplete. For the Project, a supplementary Follow-up Technical Cooperation Project was implemented in the automobile department, however, this does not necessarily conform with the conclusions of the terminal evaluation. As for the technology transfer to the refrigeration / air conditioning department, the finally scheduled short-term expert was not dispatched and the work was not completed, however, this was not clearly recognized until the ex-post evaluation was implemented.

## Achievement of Outputs

| Output   | Indicators   | Achievement  |
|--|--|--|
| Output 1: Implementation system of the basic and common skills training is strengthened. (Achieved)  | <p>① In each fiscal year, a basic and common skills training plan (training contents, period, and target numbers of people) is compiled, and training is implemented according to the plan.</p> <p>② More than 80% of the instructors who received basic and common skills training are satisfied with the training contents.</p> <p>③ Instruction plans and teaching materials for the basic and common skills training were prepared and reviewed at least 2 times during the Project period.</p>  | <p>① Achieved: The core trainers were trained, and instructors' training was implemented according to the training plan.</p> <p>② Achieved: On average, 82% of instructors were satisfied with the training contents.</p> <p>③ Achieved: The instruction plans and teaching materials for the basic and common skills training were officially revised a total of 4 times.</p>   |
| Output 2: Implementation system of the specialized skills training is strengthened. (partially achieved in the automobile department; largely achieved in the refrigeration / air conditioning department) | <p>① In each fiscal year, a specialized skills training plan (training contents, period, and target numbers of people) is compiled, and training is implemented according to the plan.</p> <p>② More than 80% of the instructors who received specialized skills training are satisfied with the training contents.</p> <p>③ Instruction plans and teaching materials for the specialized skills training are prepared and reviewed at least 2 times during the Project period.</p> <p>Note: Achievement of the outputs was judged in consideration of the indicators and the fact that some of the required technical scope could not be covered.</p> | <p>① Achieved: The core trainers were trained, and instructors' training was implemented according to the training plan.</p> <p>② Achieved: In the automobile department, 92% of instructors were satisfied with the training contents, while in the refrigeration / air conditioning department, the figure was 80%.</p> <p>③ Achieved: The instruction plans and teaching materials were prepared, and the training was improved according to necessity. In the automobile department, the training schedule and teaching materials were revised based on the experience of the first training. In the refrigeration / air conditioning department, appropriate equipment was installed.</p> |
| Output 3: Implementation system of the pedagogical skills training is strengthened. (Achieved)   | <p>① In each fiscal year, the plan of pedagogical skills training (training contents, period, and target numbers of people) is compiled, and training is implemented according to the plan.</p> <p>② More than 80% of the instructors who received pedagogical skills training are satisfied with the training contents.</p> <p>③ Instruction plans and teaching materials for pedagogical skills training are prepared and reviewed at least 2 times during the Project period.</p>   | <p>① Achieved: The plan of training in teaching methods was compiled, and instructors' training was implemented according to the plan.</p> <p>② Achieved: 97% of instructors who received training in teaching methods were satisfied with the training contents.</p> <p>③ Achieved: The instruction plans and teaching materials for the training in teaching methods were officially revised 2 times to reflect the results of assessment.</p>   |

Source: Prepared by the ex-post evaluator based on materials provided by JICA