

The Republic of Uganda

**TVET-Leading institution's expansion of
human resource and skilled workforce
development for industrial sector in
Uganda**

Project Completion Report

April 2021

**Japan International Cooperation Agency
(JICA)**

HM
JR
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I. Basic Information of the Project
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1. Country

The Republic of Uganda

2. Title of the Project

TVET-Leading institution's expansion of human resource and skilled workforce development for industrial sector in Uganda (TVET-Lead Project)

3. Duration of the Project (Planned and Actual)

Planned	March 24, 2015-March 23, 2020
Actual	March 24, 2015-March 23, 2021

4. Background (from Record of Discussions(R/D))

Uganda's economy has been steadily developing in the last decade and its GDP growth rate has been recorded approximately 7 percent per year during the period (World Bank, 2014). Nowadays more foreign direct investment is attracted to the country than ever (UNCTAD, 2014), and the private sector is expected to develop not only in agricultural field but also in various businesses including constructional and manufacturing fields. However, the number of skilled human resources in Uganda is limited and the business, technical, vocational education and training (hereinafter referred to as "BTVET") institutions in Uganda do not fully satisfy the needs of the private sector. Many of highly-paid technical jobs tend to be occupied by foreign workers rather than Ugandan people. Moreover, many of the socially vulnerable such as women and persons with disabilities are excluded from opportunities for capacity-building and employment. With these circumstances, it is urgent to establish a sustainable and inclusive human resource development system which produces a sufficient number of skilled human resources in order to maintain the economic growth and benefit the Ugandan society.

In order to address the situation, the Government of the Republic of Uganda (hereafter referred to as "GOU") has decided to upgrade the Nakawa Vocational Training Institute (hereafter referred to as "NVTI") as a college and requested the Government of Japan (hereafter referred to as "GOJ") a technical cooperation project. The request has been adopted in line with the Tokyo International Conference on African Development (TICAD) V at which the importance of human resource development in Africa was highlighted.

Through the Project, NVTI is expected to collaborate with the private sector for designing practical training courses, improve its employment-oriented vocational training management and disseminate its experience to other BTVET institutions.

5. Overall Goal and Project Purpose (from Record of Discussions(R/D))

Overall Goal	NVTI ¹ becomes a Center of Excellence (CoE) ² which produces industrial human resource responding to the needs of the private sector.
Project Purpose	Capacity of NVTI for human resource development responding to the needs of the private sector is strengthened.

6. Implementing Agency

Japan	Japan International Cooperation Agency (JICA)
Uganda	Ministry of Education and Sports (MoES)/ Nakawa Vocational Training Institute (NVTI)

II. Results of the Project

1. Results of the Project

1-1. Input by Japanese Side

a) Long term experts

Chief Adviser/Public Private Partnership (PPP) was dispatched by a shuttle type for 19 times. 4 persons whose expertise Project Coordinator/Monitoring, 1 Curriculum Development/Human Resource Development expert and 1 Electricity/Curriculum Development expert were dispatched during the Project period. (In total: 128.1 Man-Month)

b) Short term experts

Sixteen (16) short-term experts, whose expertise includes Motor Vehicle, Electronics, Machining, Motor Vehicle Workshop Construction, Mechatronics, and Electricity were dispatched. (11.43 Man-Month).

c) Project personnel

Local personnel was hired as Project Assistant for 4.5 years, after working as Project Office Administrator for 1 month.

List of Experts and Project personnel is found in Attachment 1.

d) Project implementation cost

i. Total

The total actual cost spent was approximately 509 Million Japanese yen³ (equivalent

¹ With the upgrading of NVTI to collage, the name also changed to Nakawa Vocational Training College (NVTC), in this report both NVTI and NVTC are used as abbreviations.

² 1. The definition of CoE is mentioned in SKILLING UGANDA as follows:

A concept for Centres of Excellence (CoEs) will be developed based on experiences in other countries. CoEs are places where technical expertise (experienced staff, assisted by outside experts) is concentrated for particular occupations. The CoEs will be located close to the relevant industries and labour markets to facilitate a close relationship between training and the world of work. Where possible, CoEs will be managed by or in cooperation with industry (or industry associations). Cooperation will be explored in the construction industry, which has expressed its desire to foster skills development in its sector.

³ The figure is based on the exchange rate at the time of the Report (1UGX = JPY 0.0284 : JICA official rate of Feb. 2021).

17,922 Million UGX) in the Project. (Planned budget was 479 Million Japanese yen (equivalent 16,865 Million UGX)

ii. Equipment

The equipment cost spent was approximately 148 million Japanese yen (equivalent 5,211 Million UGX) in the Project. (Planned budget was 80 million Japanese yen (equivalent 2,817 Million UGX) in the Project.

iii. Local (operation) cost

About 78 Million JPY (2,746 Million UGX) was spent to cover the local expenses for implementation of the Project. These local costs were mainly utilized for Motor Vehicle workshop construction, purchasing equipment, tools, travel transportation, business trip allowance, training-related expenses, Diploma textbooks, and miscellaneous, as well as organizing Seminar/Workshop and hiring Project personnel. (Planned budget was 32 Million JPY (1,127 Million UGX))

1-2 Input by the Uganda side (Planned and Actual)

a) Services of MoES counterpart personnel and administrative personnel

a-1 At level of MoES

- Project Director: Permanent Secretary
- Vice Project Director: Commissioner for Teacher, Instructor Education and Training, in collaboration with Commissioner BTVET.
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Table 1 MoES counterpart

1	Rose Nassali Lukwago	Permanent Sec. MoES	Transferred 2017
2	Kakooza Alex	Permanent Sec. MoES	On service
3	Mugerwa James	BTVET MoES	Retired
4	Dr. Hajjat Safinah Kisu Museene	Commissioner BTVET	On service
5	Namuli Sarah	BTVET MoES	Retired
6	Dr. Jane Egau	Director TIET	On service
7	Robert Odok Oceng	HTVET	Retired
8	Edeku Simon	Principal Educ. Officer, MoES	Retired

a-2 At project site

- Project Manager: Principal of NVTI taking the responsibility of management and technical matters of the project.
- A counterpart personnel was attached to coordinate project activities with-in Institute

and PPP Working group

- An administrative secretary assigned to project, to carry out documentation activities of the project.
- Nakawa VTI staff attached to various activities of the project as per expected outputs.

Other beneficiaries from relevant BTVET Institutions

Table 2 NAKAWA VTC counterpart (ADMINISTRATION STAFF)

NAKAWA VTC ADMINISTRATION STAFF			
1	Muwanga Godfrey Fred	Principal NVTC	On service
2	Omoo Francis	D/P Administration	Transferred 2020
3	Omita Olam Tefro	D/P Administration	On service
4	Mubiru David Luyima	D/P Training	Transferred 2016
5	Mayanja Fred Ssenviri	D/P Training	On service

List of counterpart is found in Attachment 2

b) Project implementation cost

The total actual cost spent was approximately 2,041 Million UGX) in the Project.

Table 3 GOU - COUNTERPART FUNDING

#	FINANCIAL YEAR	AMOUNT (U sh)
1	2015/2016	0
2	2016/2017	460,000,000
3	2017/2018	588,000,000
4	2018/2019	512,000,000
5	2019/2020	263,000,000
6	2020/2021	218,348,500
	TOTAL	2,041,348,500

1-3 Activities

0-1. <Implement a project baseline survey>

Baseline Survey was completed in 2015 and reports were prepared.

0-2. <Monitor the project activities regularly>

Overall project monitoring was conducted by project members (C/Ps and JICA experts) on daily basis. A structure for monitoring the project activities were set up and monitoring schedule was developed in December 2015 and revised every 6 months.

0-3. <5S activities are firmly in place>

The Safety, Health, Machinery and Equipment working group (WG) which was formulated as part of activity under output 3, has been taking charge of this activity and conducting the inspection.

JICA experts have continuously given guidance in ensuring 5S activities are conducted according to the plan. After the safety inspections had been conducted, the WG developed reports and submitted them to NVTC management to validate and take relevant actions for betterment.

The COVID-19 has created an impact on the awareness of health and hygiene. The Safety and health working group is charged with ensuring that all guidelines (SOPs) are followed by all members of NVTC and its visitors. Such SOPs include Provision of hand washing points, Awareness posters on COVID-19, use of Sanitizers at key access points and use of hand washing soap at every entry point of the institution.

Output 1 Vocational Diploma on Motor vehicle and electricity are established.

1-1. <Clarify the terms of reference and activities of the working group>

Activity was completed.

The terms of reference and activities for the PPP working group were clarified. (2015)

1-2. <Establish a Public-Private Partnership Working Group for developing Diploma Courses and upgrading Course (Output3:3-4)>

Activity was completed.

A workshop for the PPP- working group was held and the draft curricula for vocational diploma in Automobile and Electricity were presented. They reviewed the curricula and proposed changes which were included. (2015-2016)

1-3. <Develop the regulations of the diploma courses>

Activity was completed.

The curriculum task force steered the activities of the diploma courses using the guidelines from NCDC and NCHE. The regulations were drafted and continuously updated. They were finalized and incorporated in the main programme document which was presented to MoES. (November 2016)

1-4. <Develop the curricula, assessment tool and educational materials of the diploma courses>

Activity was completed.

1) Curriculum

The curriculum for Vocational Diploma in Automobile Engineering (VDAE) and in Electrical Engineering (VDEE) were developed along with UVQF Level 4 set by DIT, approved by NCDC and accredited by NCHE (2017).

Training Guides for VDAE and VDEE were completed and submitted to NVTI management. (2017)

2) Assessment tools

Workshops were held and final report and assessment tool documents were submitted to the Principal by the consultant team hired by NVTC. (2020)

Report submitted: TID (Test Item Development) Report for VDEE AND VDAE

3) Education materials

Almost all 4-set training materials for VDEE & VDAE Year I & Year II were developed. Instructors for both VDEE & VDAE continued to develop and revise 4-set materials to secure the quality. These materials were gathered and in the process of being compiled in and secured on the Edmodo platform.

1-5. <Identify and install necessary equipment>

Activity was completed.

-Training tools and equipment for VDAE from Japan was received. A Mitsubishi Fuso truck was purchased. 5 and 3 different types of reference textbooks for Motor Vehicle and Electricity respectively were purchased. (2017)

-Some training tools and equipment for VDEE were purchased in Uganda by the Project (Aug. 2017- Mar. 2019). The purchased tools and equipment were entered in the inventory and are used for implementation of class for VDEE Year I.

-Training equipment for VDEE (Year I) from Japan was delivered to NVTI. (May 2019) Registration, development of inventory and installation of some equipment were done by the end of 2019.

- A total of 325 textbooks for VDAE/VDEE were procured by the Project and delivered to NVTI (Mar. 2019).

-Training equipment for VDEE (Year II) from Japan was delivered to NVTI. (Jan. 2020) Registration, development of inventory and installation of some equipment were done by Mar.2021.

- A total of 37 textbooks for VDAE/VDEE were additionally procured by JICA and delivered to NVTC (Jan. 2020).

List of equipment and textbooks is indicated in the Attachment 3.

1-6. <Assign additional instructors for diploma courses>

• VDEE

-In 2020, 1 instructor, Ms. Naigembe Mary who had been assigned by MoES for VDEE in 2015 was transferred from NVTC to Jinja VTI, while 2 instructors, Mr. Bamusibule Charles and Mr. Mpanga Alexander, in VDEE were posted to NVTC by MoES.

• VDAE

-Also, 1 instructor, Mr. Kabengonzi Ernest who had been assigned by MoES for VDAE in 2015 was transferred from NVTC to Lake Katwe TI, also 1 instructor, Mr. Madira Alex, who was supporting VDAE was transferred to Jinja VTI. On the other hand, 2 instructors in VDAE, Mr. Erima Geoffrey from Jinja VTI and Mr. Aretor Zerubaberi from Moroto TI, were transferred to NVTC by MoES.

-MoES reduced on the gap of the instructing staff for the diploma programme. Out of the 5 instructors requested, 4 have been dispatched for each programme leaving a gap of one instructor which is filled by those hired by the Board of Governor.

-A gap between the number of requested additional and assigned instructors for diploma programme is indicated in the table below (as of February 2021) :

Table 4 Staff allocation in vocational diploma programme

	Requested	Actual	
		Allocated by MoES	Hired by NVTC
VDAE	5	4	1
VDEE	5	4	1

1-7. <Implement training for the assigned instructors>

1) TOT

- 9 Motor Vehicle (MV) instructors were trained on handling the new Equipment conducted by JICA Motor Vehicle Expert. (2017)
- Expert MV conducted training on preparation of training hand-outs for trainees using Power Point for MV, Electronics and Electricity. (2016-2017)
- Expert MV also conducted training on use of Access for management of Departmental inventories. (2017)
- Training of Trainers (TOT) sessions on Basics of Diagnosis, Gasoline engine diagnosis, Diagnosis Gasoline engine controls, Diagnosis Chassis, Diagnosis electrical II, Diesel engine controls, Service Advisor, as well as On-the-Job Training by Toyota Uganda were regularly conducted to MV Instructors. (2016-2020)
- 3 MV instructors were trained on Maintenance methods for engine components by NELIS TECHNICAL SERVICES LTD. (June 2018)
- 6 MV instructors were trained respectively on Integrated ignition system and Lighting system and body electrical and accessories as In-House TOT. (Jan. 2019)
- 9 instructors were trained on Auto CAD by ADOP/ Mr. Atwom Obonyo. (Jan. 2019)
- 8 MV instructors were trained on Vehicle tyres handling by City Tyres. (May. 2019)
- 6 instructors were trained on Electrical circuit I and Electrical Measurement by JICA Short term expert. (July. 2019)
- 2 Electricity instructors were trained on Electrical Power by UETCL. (Jul.-Aug. 2019)
- 10 instructors were trained on Arduino, Instrumentation I, Digital Electronics,

Magnetism and Electromagnetism by JICA Short term expert. (Feb.- Mar. 2020)

- 20 instructors were trained on the use of Edmodo Learning Management System to conduct online classes in Diploma programme as In-House TOT. (Dec. 2020, Feb.- Mar. 2021)

List of TOT for Diploma instructors is indicated in the Attachment 4.

1-8. <Implement the Diploma courses>

1) Start and implementation of Diploma Programme

-On 27th Aug. 2018, NVTI launched Vocational Diploma programme for Automobile Engineering and Electricity Engineering. In total, 27 first batch students (VDAE: 12, VDEE: 15) were registered for as of Sep.2018. The following tables show the relevant data of numbers of applicants, enrolled and reported in VDAE/ VDEE.

Table 5 Data of Diploma programme admission in 2018/2019

Programme	Applicants	Enrolled	Reported
VDAE	24 (2)	20 (2)	12 (2)
VDEE	29 (1)	16 (0)	15 (0)
	53 (3)	36 (2)	27 (2)

N.B. Number of female student is described in parentheses ().

-In Aug. 2019, 40 students (VDAE: 20, VDEE: 20) were admitted for the academic year 2019/2020 as the 2nd batch. The following tables show the numbers of applicants and those admitted.

Table 6 Data of Diploma programme admission in 2019/2020

Programme	Applicants	Admitted
VDAE	36 (1)	20 (1)
VDEE	35 (3)	20 (3)
	71 (4)	40 (4)

N.B. Number of female student is described in parentheses ().

However, by the end of semester I 2019/2020, the status of numbers of 2nd batch dropped from those admitted. The table below gives their current status as well as those for 1st batch students.

Table 7 Data of Diploma programme in 2019/2020 (Current status)

Programme	2 nd batch (Year I)	1 st batch (Year II)
VDAE	17 (1)	10 (2)
VDEE	19 (2)	15 (0)
	36 (3)	25 (2)

N.B. Number of female student is described in parentheses ().

-During the school closure period due to COVID-19, all the physical classes were suspended, but some instructors conducted distance learning lessons using platforms like YouTube, WhatsApp and Google class. The class for Year II Semester II resumed (Oct. 2020) and the students took UBTEB exams. All 1st Batch (Year II) students are scheduled to sit for UVQF assessment Level IV conducted by DIT from 15th to 19th Mar.2021.

2) Furnishing of training rooms

Tables/desks and chairs for the classrooms were produced at NVTI through departmental collaboration of woodwork and welding and other furniture was also purchased. It was designed, demarcated and a partition was set to create a VDEE instructors' room and a provision for a store.

3) Motor Vehicle Workshop construction

-Construction work started from Aug. 2018 by a construction company, Cementers (U) Ltd, supervised by a local consulting company, KK Partnership Architects (KKPA). JICA dispatched expert in charge of construction tendering support and construction supervision from Aug. 2017 to Apr. 2019 to supervise overall construction.

-Construction work was completed, and the building handed over to NVTI in April 2019. The workshop was commissioned officially on 6th June 2019 by the Permanent Secretary of MoES and Chief Representative of JICA Uganda on the 7th graduation ceremony of NVTI.

-Issue of occupation permit on the workshop by KCCA was delayed, but finally it was granted to NVTI on 2nd Dec. 2019.

-The classrooms for the workshop have been utilized during the VDAE training.

4) Industrial Training

-From Jun. to Aug. 2019, Industrial Training for Diploma programme students (Year I) was implemented and 26 students(VDAE: 11, VDEE: 15) were placed in 11 companies as indicated below.

Table 8 List of Industrial Training for Diploma programme (2018/2019)

Programme	Number of students placed	Company (Number of students)	Conducted supervision
VDAE	11	Toyota Uganda (2), Muloso Auto Garage (4), 3WM Auto workshop (2), HMJ Car Service (1), Semin Corp Ltd (2)	3 rd - 6 th Jul. 22 nd - 26 th Jul. 2019
VDEE	15	MUTTICO (2), Kinyara Sugar Work (2), Crown Beverages (2), Roofings(6), Mayondo Eng services(1), UETCL(2)	3 rd - 6 th Jul. 22 nd - 26 th Jul. 2019

-Since training was interrupted due to COVID-19, Industrial Training did not take place as scheduled and was postponed. However, after re-opening school, Industrial Training for Diploma programme students (Year II) was implemented and 24 students (VDAE:10,VDEE:14) were placed in 16 companies as indicated below. (Dec. 2020 - Feb. 2021)

Table 9 List of Industrial Training for Diploma programme (2019/2020)

Programme	Number of students placed	Company (Number of students)	Conducted supervision
VDAE	10	Paddy Tibahwa Mayinja & sons auto garage(1), St Simon Auto garage and spare parts(1), City Tier (1), Auto solution (1), Auto garage(1), Isaac and sons garage (1), ATG garage(1), HMJ Car Service(3)	14 th Dec. 2020 - 12 th Feb. 2021
VDEE	14	Sindila hydro construction ltd (2), Crown beverages LTD CISSA Plant (1), Joefra electrical services (1), Ultra Engineering company (1), Palisa motor rewinding (1), Roofings(6), Level energy solutions(1), Dot engineering company ltd(1)	14 th Dec. 2020 - 12 th Feb. 2021

1-9. Monitor and evaluate the diploma courses

1) Regular meeting of Diploma programme

-The Project and NVTI conducted monitoring of Diploma programme through the regular meeting with participation of NVTI Management, Diploma Coordinator, and relevant Head of Department fortnightly. In the meeting, the member discussed the result of "Daily

Monitoring Sheet”, which students of VDAE and VDEE conducting assessment of the class of their instructors and made suggestions for the improvement of the management of the programme and the class.

- In addition to the regular meeting, a programme review meeting was held on Sep. 2019 among the NVTC management and instructors involved in Diploma programme to assess the programme of Year I and reflect the learnt lessons to the implementation of 2nd Batch.

2) Assessment of Vocational Diploma by UVQF Level 4, DIT

-NVTC had several meetings with DIT and confirmed that assessment of UVQF Level 4 for Automotive-Diagnostic Technician and for Industrial Electrical Technician to be conducted at the end of Diploma Year II program in April 2020.

-However, due to the school closure from 20th March 2020 owing to the COVID-19, planned UVQF level 4 assessment was suspended.

-In Nov. 2020, DIT announced for registration and all 1st batch students for Vocational Diploma were registered for UVQF Level 4 assessment to be scheduled from 15th to 19th Mar. 2021.

Table 10 Registered number for UVQF Level 4/DIT

Occupation (UVQF Level 4) for;	Registered number	Programme at NVTC
Industrial Electrician Technician	15	VDEE
Auto Diagnostic Technician	10	VDAE

1-10. Revise the diploma curriculum based on the results 1-9.

Recommendations from the training evaluation sheets were compiled, analyzed, and discussed in Diploma programme meeting, however the curriculum review process is still pending.

1-11. Recognize the diploma curriculum under level 4 of UVQF.

Activity had been completed and waiting for official recognition by DIT.

-A workshop for Assessment Standard Development (Test Item Development) as a process for development of ATP (Assessment and Training Package) for Automotive-Diagnostic Technician (VDAE) and Industrial Electrical Technician (VDEE) of UVQF Level 4 had been conducted by DIT. (Sep. 2019)

-Another workshop on Training Standard Development (Training Module Development) to complete ATP was followed. (Oct. 2019)

-ATP for 3 occupations at level 4 of UVQF were approved by DIT and shared the draft with NVTC and the Project.

The 3 occupations are:

- Automotive-Diagnostic Technician UVQF level 4

- Industrial Electrician Technician UVQF level 4
- Mechatronics Technician UVQF level 4

Output 2 upgrading training on mechatronics is provided.

2-1. <Analyze the training needs of the private sector>

A need survey was conducted, and Mechatronics upgrading Training was justified. (2015)

2-2. <Develop training modules, materials, and assessment tool for upgrading training>

-Mechatronics Training curriculum was developed and approved by PPPWG. Modifications were made by sub-PPPWG. (2016)

-Assessment tools were developed for both trainer and trainee (2017)

-1 PPPWG meeting with UMA was conducted. Meeting report was developed and delivered for members. (2017)

-Training modules and content for PLC and Pneumatic System were developed. As Schedule for 3-weeks training was also developed. (2017)

-The Mechatronics team developed an assessment tool for up-grading training in form of Questionnaire and self-evaluation. Training materials in form of texts, Power point presentations and circuit designs on Motor Control Technology and assessment package were developed and documented in workbook formats for upgrading training programme. (2017)

-Mechatronics training content was modularized and broken down into sub-modules to be conducted throughout the year as PLC, Control of pneumatic apparatus, pneumatic system technology and Motor control technology. (2018)

-In training material development, all the 12 Mechatronics C training units were fully assembled and tested for functionality. Completion of the assembly exercise was conducted in April 2019.

2-3. <Select instructors from Electronics, Machining and Electricity>

In addition to the 4 Mechatronics instructors, 10 more (Electronics 5, Electricity 3, Machining 2), were appointed from the various departments (2017) to start mechatronics unit. NVTI appointed a HOD machining as unit leader. The unit is in charge of implementation of upgrading training (short course) for private sector.

2-4. <Identify and install necessary equipment>

-1st Batch of Training Equipment from Japan was received. (Dec. 2016)

-2nd Batch of Training Equipment from Japan was also received.(Feb. 2017)

-3rd Batch of Training Equipment from Japan was also received. (Jul. 2017)

- A stand-by generator was purchased. (Mar. 2017)

-Assembling of Training equipment for 1st PLC upgrading training was completed. (May 2017)

-The procurement of 4th Batch of consignments was suspended due to budget constraint of JICA, rest of equipment were delivered and installed at mechatronics Laboratory, NVTC.

List of provided equipment is indicated in the Attachment 3.

2-5. <Implement TOT for the instructors>

- In-House Training for basic PLC and Pneumatic system for instructors was conducted during weekend. (2016-2017)
- 4-weeks-training of PLC and Pneumatic System was conducted for 4instructors in Hokkaido Japan. (Aug-Sep 2016)
- 8 Instructors attended TOT on Motor and Sensor technology at Kinki Polytechnic College in Osaka-Japan (Aug. – Sep. 2017).
- TOT in-house training of Mechatronics instructors was conducted by a JICA short-term expert on assembling of equipment on pneumatic system and programming (Oct.-Nov. 2017).
- In-House Training on ability checks was conducted among all Mechatronics instructors (Feb. 2019). A schedule for In-House Training was developed to ascertain the levels of competences in designed modules (PL11 and PL12).
- In-House Training was organized and conducted for PL11 (Basics of PLC) on Saturday in total 12 times for all Mechatronics instructors (Jun. to Oct. 2019).
- Abilities of instructor's competences were assessed and analyzed by the Mechatronics team which showed improvement of instructors in their level of competence to deliver training to the industrial workers. The results also concluded that 3 instructors enhanced the capacity and able to teach PL11.
- The ability structure for PL12 was developed, using CUDBAS with a view of conducting another TOT in 2020.
- 4 Mechatronics instructors participated in TOT on Arduino by a JICA short-term expert. (Feb.- Mar. 2020)

2-6. <Implement Upgrading Training>

- 2 Mechatronics laboratories were furnished. (May 2017)
- A trial Mechatronics Up-grading Training was implemented. (June 2017)
- An up-grading training in PLC and Pneumatic systems was conducted for 8 Industrial workers from 7 different companies; Abacus Parental Drugs (2), Crown Beverages, Roofing Ltd, Uganda Clays Ltd, Kibus Systems Ltd, Samsoniics Comptech Ltd, and RECO Industries Ltd.(Jul. - Aug. 2017)
- Upgrading trainings for company have been conducted 19 training sessions. (Feb.- Jul. 2018) Technicians came from the following 8 companies: Kinyara Sugar Ltd, Luuka plastics Ltd, Reco industries Ltd, Ferdisult Engineering services, Bwendero Dairy Farm, Mashaki

Refrigeration & Colp storage Ltd, Cable Corporation Ltd, Medisell (U) Ltd. and 2 Self-employed.

- Upgrading trainings for company have been conducted 14 training sessions. (Aug.- Dec. 2018) Technicians came from the following 11 companies: Kakira Sugar Ltd, Kinyara Sugar Ltd, Luuka plastics Ltd, First Timeline Investmants (U) Ltd, Ferdisult Engineering services, Electrotel Ltd, Mashaw Refrigeration & Colp storage Ltd, Hima Cement, Uganda Petroleum Institute Kigumba, Crown Beverages Ltd, Mukwano Industry Ltd, and 2 Self-employed.

-14 sessions of Upgrading trainings for company workers were conducted (Feb.- Jul. 2019). Participants came from the following 8 companies: Grain Pulse, Africa EMS Nyamwamba, National Coffee Research Institute, Crown Beverages, First Timeline Investments (U) Ltd, American Embassy, Mukwano Industry Ltd, GT Ltd and 2 self-employed.

-14 sessions of Upgrading trainings for company workers were conducted (Aug.2019 - Feb. 2020). Participants came from the following 6 companies: G-Tech, American Embassy, East African roofings System Ltd, NEC Uzima Ltd, Cipla Chemicals, Lubilia Kawembe Hydro Ltd and 2 self-employed.

- 2 sessions of Upgrading trainings for self-employed workers were conducted in Mar. 2020 for 5 days.

List of Mechatronics Upgrading training is indicated in the Attachment 5.

2-7. Monitor and evaluate the upgrading training

1) Monthly report meeting

-The Mechatronics team started conducting a monthly report meeting from May 2018. These meetings helped to check on the progress of trainings and address the challenges that may have been cited in the previous trainings.

-Monthly meetings continued to take place every month and members deliberated on issues concerning upgrading training in Mechatronics including challenges and mitigation measures suggested to continuous improvement, however, due to the school closure owing to the COVID-19 no meetings were conducted from Mar. 2020.

2) Upgrading training evaluation

- The team made a summary of training evaluation report in 2018 and presented the overall summary and challenges in the PPP workshop held in Feb. 2019, included the result of (i) ability analysis of participants (self-assessment before and after the training) of the training, (ii) end of training evaluation, (iii) practical test.

- Ability checks were revised, and more realistic and measurable competences captured to help in checking skills development and attainment.

- The team conducted 1st post training survey on the upgrading training which had implemented from Feb. to Jul. 2018. The team visited 5 companies with the questionnaires

to ex-participants, industry/factory supervisor, and Human Resource manager, as well as having interview with them to get a feedback on the conducted training and their expectation to the training in 2019. (May.- Jun. 2019)

- The team conducted 2nd post training survey on the upgrading training which had implemented from Aug. to Dec. 2018. The team visited 6 companies with the questionnaires to ex-participants and industry/factory supervisor, as well as having interview with them to get a feedback on the conducted training and their expectation to the training in 2020. (Sep.- Dec. 2019)

- The team conducted 3rd post training survey on the upgrading training which had been implemented from Feb. 2019 to Mar. 2020. The team received the questionnaires to ex-participants and industry/factory supervisor from 6 companies, as well as had interview with some of them to get a feedback on the conducted training and their expectation to the training in 2021. (Feb. 2021)

2-8. Revised the training modules based on the results of 2-6.

This activity was scheduled to be conducted from July - August 2020 with a short-term expert. But, because of the lockdown due COVID-19, planning of the dispatch of a short-term expert was postponed.

2-9. Recognition of the training modules under level 4 of UVQF.

Activity had been completed and waiting for official recognition by DIT.

After DIT workshop on Training Standard Development (Training Module Development) in Oct. 2019 and another workshop on Assessment Standard development (Test Item Development) in Nov. 2019 had been conducted, the developed test Items were submitted to DIT for quality checking, and arrangements are under way to have them verified and passed as ATP for the Mechatronics Technicians level 4.

Output 3 NVTI's management capacity is strengthened.

3-1. <Modify TOR of management committees in line with NVTI strategic plan>

-7 Working group committees and 1 management committee were established. (Jul. 2017)

-Restructure of NVTI committees was discussed and 3 Working Groups (WG) were adapted under Institutional Management Committee (IMC), these are namely; (i) Training Management, (ii) Safety, Health, Machinery and Equipment, (iii) Collaboration and Publicity. (Feb. 2018)

3-2. <Conduct staff training to build capacity to implementing and monitoring of strategic plan>

1) Assign person in charge

Members for 3 WGs were assigned in May 2018 and each of WG started its meeting from

June 2018. Meetings were conducted and minutes were shared with the Management. Quality control committee was constituted to oversee quality management system (QMS) in NVTC headed by Mr. Betere.

2) Develop training plan

Development of training (Capacity Development) plan was initiated.

3) Conduct training according to needs identified

Based on the needs identified by the performance plan, some trainings were conducted, such as:

- 2 instructors attended training on ICT (use of Camera and animations soft wares for teaching and learning, use of Iterative screen held at Kyambogo University.(Jul.– Aug. 2018)
- 2 Instructors participated in the Workshop on Participatory Action Research in Colline Hotel Mukono District organized by UNESCO. (Apr. 2018)
- 2 staff participated in the International Conference organized by Rift Valley Vocational Training Institute -Creating Inclusive foundations for sustainability- The TVET Context in Eldoret, Kenya. (Jun. 2018)
- 2 staff attended training for sports masters on officiating and management organized by MoES held at Nyondo Core PTC Mbale. (Mar. 2018)
- 5 instructors of Plumbing department participated in the training in Refrigeration and air conditioning systems organized by NVTI and HWK at NVTI. (Nov. 2018)
- 6 staff were trained in International certification level 1 and level 2 by the Engineering Construction Industry Training Board coordinated by Solid Rock Life and Business. (Nov. 2019 – Feb. 2020)
- 5 staff were trained in the Total Quality Management System (TQM) organized by Makerere University of Business Studies (MUBS) which took place at C' Sand suites Jinja. (Feb. 2020)
- Health, Safety, Machinery and Equipment WG attended at training in development of HSE manual which was organized by E360 company. (Jan. 2020)
- Training of 4 set materials development was conducted by National Coordinator to the new staff who had been transferred to NVTC.(Feb. 2020)
- During the school closure period, 16 instructors were trained on the use of Edmodo Learning Management System to conduct online classes in Basic course as In-House TOT supported by HWK. (Jun.- Jul. 2020)
- 20 instructors were trained on the use of Edmodo Learning Management System to conduct online classes in Diploma programme as In-House TOT. (Dec. 2020, Feb.-Mar. 2021)

4) Develop operation guideline

A guideline for implementation of Special Training Programme was presented to the Institute Management Committee (IMC). It was adapted to be operationalized at draft level. The document outlines preparation, implementation, assessment and evaluation of all special training programmes.(July. 2019)

5) Study tour to Rwanda

- Study Tour to Rwanda was conducted from 3rd to 7th Feb. 2019 with the participation of 23 persons from NVTI, CA of the Project, 2 officials from JICA Uganda. With a support from JICA Rwanda, the mission visited Rwanda TVET Training Institute (RTTI) Kigali, Integrated Polytechnic Regional College (IPRC)-Tumba, IPRC-Kigali, Workforce Development Authority (WDA), Rwanda Polytechnic (RP) etc. with an objective of sharing the best practices from the C/P in Rwanda that would enhance improvement in the overall management of NVTI.

- To reflect the good practice learnt during Rwanda Study Tour, an action plan was developed, and tasks were allocated to 3 existing Working Groups of NVTI. (Apr. 2019)

3-3. <Implement selected activities in strategic plan>

1) Develop operation schedule for selected activities

Working Groups made quarterly work plans for selected activities.

The five-year strategic plan (2015-2019) was reviewed. The new five-year strategic plan (2020-2024) has been in the process of development by CMC with facilitators from Civil Service College Jinja since Nov. 2019. A series of workshops for the new strategic plan had been conducted with members of CMC and the strategic plan will be finalized in Mar. 2021.

2) Conduct activities

Based on the strategic plan, some activities have already been conducted, such as:

- NVTI sports gala was held at Mandela National Stadium. (Jul. 2018)

-Regional National Primary Teachers Colleges, Technical and Vocational Institute, Farm Schools Association (NAPTIVFISA) championship was conducted at St. Josephs TI Kisubi.(Aug. 2018)

- Training schedules for basic training were accomplished in departments.

- On 10th October 2018, celebrations on 50 years anniversary of collaboration between JICA and NVTI were conducted successfully

- NVTI officially commissioned Hydraulic Plumbing Systems Unit. (2018)

- NVTI sports gala was held at Kyambogo University (Jul.2019)

- Real life project (CSR) at Uganda School for Deaf in Ntinda (Apr.2019).

- Kampala regional skills competitions 2019 was held at NVTI and students of basic course

participated.(Nov. 2019)

- Under the current strategic plan, the short courses of NVTC upgrading training programmes were implemented.

List of the short courses is indicated in the Attachment 6.

3-4.<Improve the management of upgrading and tailor made training programme (Output2:2-6/2-7)>

- The content of each upgrading training course was reviewed in detail and guidelines for implementation of Special Training Programmes had been developed.

- Training for Ndejje University was implemented based on the guidelines. Training documents for this training were harmonized, training reports per department were generated and submitted. Assessment rubrics were harmonized, and submissions were made.

3-5.<Introduce employment and entrepreneurship support to NVTI's trainees>

1) Develop activity plan

- Industrial Training was included as a core module by National Curriculum Development Center (NCDC). (2016)

- Industrial Training Committee was established, and 12 staff members were assigned. (Mar. 2017)

- A PPP WG workshop was held and 15 companies UMA and USSIA attended. (Nov. 2017)

- A work plan for the year was developed at the beginning of each year from 2018.

- MoU signed between Tukole Innovation Village and NVTI for employment and re- tooling NVTI trainees with ICT and real life skills and to support employment opportunities (Jul. 2019).

2) Implement activities for industrial training

- Soliciting and lobbying of Industrial Training (IT) for basic trainees were done between Sep. to Nov. every year.

- IT for basic course students were conducted in Dec. and Jan. every year.

- Results of IT for basic trainees were compiled and submitted to UBTEB. Then IT Coordinator developed and submitted IT Report to NVTC management.

- Roofings took on another batch of 9 trainees for two months postindustrial training. (2020)

- Instructors were sent to various places to lobby for IT for Diploma trainees.

- In Diploma programme 2018/2019, 26 trainees of Year I (VDAE:11, VDEE:15) were placed in 11 companies (Jun.- Aug. 2019). Follow-up supervision by instructors was conducted twice (Jul. 2019).

- In Diploma programme 2019/2020, 24 trainees of Year II (VDAE:10, VDEE:14) were

placed in 16 companies (Dec. 2020- Feb.2021). Follow-up supervision by instructors was conducted (Jan.- Feb. 2021).

3) Implement activities for job placement

- NVTI consulted with Roofings on trainees to be recruited for jobs (Jul. 2019), 10 were interviewed and given Jobs.
- NVTI concluded a MoU with Innovation Village on 30th Jul. 2019 and Innovation Village is ready to place some trainees of Electrical and Machining Departments for Jobs in industries.
- As a support of trainees' employment, a Job fair was held in Dec. 2019, when an orientation of Industrial Training (IT) for basic course students was conducted. In the Job fair, 4 guest speakers from industries (organizations) such as Innovation Village, USSIA, Toyota Uganda, and Roofing, made presentation to approximately 300 students about the career pass, ideal engineers for industries, and entrepreneurship, as well as Q&A with participated students.
- Through the collaboration with NVTC, Tukole (by The Innovation Village) supported the job placement of 10 graduates of NVTI to Aponye industries. Out of the 10 trainees who undertook industrial training with Roofings, 5 were retained and offered employment by the Company.
- A MoU between NVTI and UETCL was signed at the UETCL HQ (Dec. 2019). In the MoU, UECTL shall not only receive NVTI instructors for TOT and company attachment, but also receive NVTI trainees' industrial attachment as well as support NVTI electrical graduates in areas of employment.

4) PPP meeting

- PPPWG workshop on industrial attachment was held with participation of representatives from 22 companies, Uganda Manufacturers Association (UMA), and Uganda Small Scale Industries Association (USSIA), Examination bodies, NVTI, JICA. (May. 2018)
- PPPWG workshop on Industrial attachment for trainees, Job placement and entrepreneurship, and Staff industrial attachment was held with representatives from 23 companies, Uganda Manufacturers Association (UMA), and Uganda Small Scale Industries Association (USSIA), Examination bodies, NVTI, JICA. (Dec. 2018)
- PPPWG workshop on the progress of Vocational Diploma, Mechatronics upgrading training and strategy for IT was held with representatives from 19 companies, Uganda Manufacturers Association (UMA), Uganda Small Scale Industries Association (USSIA) and NVTI. (Feb. 2019)
- As mentioned above, several workshops to develop ATP (Assessment and Training Package) on Automotive-Diagnostic Technician, Industrial Electrical Technician, and Mechatronics Technician for UVQF Level 4 were held by DIT with participation of

instructors of NVTC and engineers of the private sector. (Most of them are members of PPPWG.) (Sep. – Nov.2019)

5) Develop the data base

A data base for industries based on experience from previous IT for departments was established and relevant information (company name, location, contact person`s data etc.) kept updated after IT supervision. Collaboration and Publicity Working Group is responsible for these activities.

Output 4: Function of NVTI to support other BTVET institutions is strengthened.

4-1. <Identify activities or utilizing NVTI's knowledge and experience to support other BTVET institutes (Vocational Training Institutes and Uganda Technical Colleges)>

Activity was completed.

-A tracer study led by the department of instructors and managers training at NVTI was conducted from July 2017 to March 2018.

-A Workshop was conducted in June 2018 with the 58 stakeholders including instructors and heads of the selected 5 Regional Placed Technical Institutions (RPTI); Nyakatare TI, St Peters - Mubende TI, Arua TI- Ragem, Kiryandongo TI, and Iganga TI to present the action plan and its operational schedule. The action plan was adapted in the Workshop, and 15 instructors of NVTI were selected to be involved in the activities of Output 4.

-In addition, needs assessment survey was conducted in August 2018 in the 5 RPTI by the team of Output 4.

4-2. <Develop a plan for conducting the activities (4-1)>

-A workshop was conducted between Nakawa VTI and the principals of the 5 RPTI and a training schedule for 2019/2020 was developed upon which training was conducted. (Mar. 2019)

Outreach TOTs were planned during the school holidays throughout the year, and the team of instructors for Output 4 monitors the progress of preparation of the TOTs using a checklist, as well as reports submitted after the TOTs. However, because of the closure of schools by outbreak of COVID-19, the planning was postponed.

4-3. <Conduct the activities based on the plan (4-2)>

Below are tables showing the conducted trainings during the Project period, included trade/module and the number of instructors trained. In total, 23 trainings were conducted, and 327 instructors were trained.

Table 11 Training Calendar (Sep. 2018 - Jan. 2019)

S/N	Trade	Venue	Module	Period	Duration	No of trained instructors
1	Plumbing	Nakawa VTI	(1) Air conditioning and refrigeration	19 Nov - 30 Nov, 2018	2 Weeks	10
			(2) Solar heating and pumping	21 Jan - 25 Jan, 2019	1 Week	14
2	Welding	Mubende TI	Basic Arc welding	28 Jan - 8 Feb, 2019	2 Weeks	15
3	Electricity	Iganga TI	Sequential control	10 Dec - 14 Dec, 2018	1 Week	10
4	ICT	Iganga TI	Computer Applications Training	17 Sep - 21 Sep, 2018	1 Week	20
		Mubende TI	Computer Applications Training	3 Dec - 7 Dec, 2018	1 Week	20
		Nyakatare TI	Computer Applications Training	3 Dec - 7 Dec, 2018	1 Week	20
		Kiryandongo TI	Computer Applications Training	7 Jan - 11 Jan, 2019	1 Week	20
		Arua TI	Computer Applications Training	7 Jan - 11 Jan, 2019	1 Week	20
		Sub-Total				149

Table 12 Training Calendar (Feb. - Jul. 2019)

S/N	Trade	Venue	Module	Period	Duration	No of trained instructors
1	Woodwork	Mubende TI	Machine operation I	25 Feb - 1 Mar, 2019	1 Week	16
2	Electricity	Iganga TI	PLC	13 - 17 May, 2019	1 Week	15
3	Building Construction	Nyakatare TI	Maintenance and use of Terrazzo Machines	13 - 17 May, 2019	1 Week	12
4	Machining and Fitting	Iganga TI	Measuring tools/Inspection	13 - 17 May, 2019	1 Week	8
5	Motor Vehicle	Kiryadongo TI	Engine diagnosis	4 - 8 Feb, 2019	1 Week	12
		Sub-Total				63

Table 13 Training Calendar (Aug. 2019 - Feb. 2020)

S/N	Trade	Venue	Module	Period	Duration	No of trained instructors
1	Electronics (ICT)	Mubende TI	Computer Applications Training (CAT)	9 – 13 Sep, 2019	1 Week	20
2	Motor Vehicle	Arua TI	Electrical system	2 – 6 Sep, 2019	1 Week	13
3	Electronics (ICT)	Iganga TI	Computer Applications Training (CAT)	9 – 13 Sep, 2019	1 Week	20
4	Building Construction	Mubende TI	Paver skills	9 – 13 Sep, 2019	1 Week	12
5	Machining and Fitting	Arua TI	Basic lathe machine	9 – 13 Sep, 2019	1 Week	10
6	Electricity	Kiryandongo TI	Motor & transformer rewinding	9 – 13 Sep, 2019	1 Week	10
7	Plumbing	Nakawa VTC	Advanced pipe fitting	9 – 13 Dec, 2019	1 Week	10
8	Building Construction	Kiryandongo TI	Fixing tiles	9 – 13 Dec, 2019	1 Week	11
9	Machining and Fitting	Nyakatare TI	Milling machine operation	9 – 13 Dec, 2019	1 Week	9
Sub-total						115

In the original proposed training schedule for FY 2019/2020, 18 more trainings had been planned, however, due to the financial constraint of C/P fund and closure of schools owing to the COVID-19, planned trainings in the table below were not conducted during FY 2019/2020 and were postponed to FY2020/2021.

Table 14 Suspended Training (FY 2019/2020)

S/N	Trades	Venue	Module	Planned period	Duration	Name of NVTC's Master trainers	No of trained instructors
1	Plumbing	Nakawa VTC	Sheet metal	6 Jan - 10 Jan 2020	1 week	Ocho Bwambale	16
2			Water treatment	May 2020	1 week	Bwambale Ocho	16
3	Welding	Mubende TI	TIG welding	Jan 2020	1 Week	Akumba Mirembe	14
4			MAG welding	27 Jan - 31 Jan 2020	1 Week	Mirembe Akumba	14

5			Advanced welding (metal inert gas welding)	May 2020	1 Week	Akumba Waiga	14
6	Woodwork	Kiryadongo TI	Machine course 1	27 Jan - 31 Jan 2020	1 Week	Okwir Nyanzi	10
7			Sketch up	3 Feb - 7 Feb 2020	1 Week	Ezra Nyanzi	18
8		Nakawa VTI	Wood finishing	May 2020	1 Week	Nyanzi Okwir	12
9			Spindle moulder	May 2200	1 Week	Okwir Nyanzi	12
10	Electricity	Nakawa VTI	Pneumatics	TBD	1 Week	Kajjaku Wanyama	10
11		Arua TI	Circuit building	6 Jan - 10 Jan 2020	1 Week	Wanyama Ssemakula	10
12		Iganga TI	CRO & signal generator	May 2020	1 Week	Wanyama Ssemakula	10
13	Building Construction	Arua TI	Interlocking bricks and blocks	May 2020	1 Week	Nyanja Okila	14
14	Electronics (ICT)	Nyakatare TI	CAT	3 Feb - 7 Feb 2020	1 Week	Ezra	20
15		Kiryadongo TI	CAT	27 Jan - 31 Jan 2020	1 Week	Ezra	20
16		Arua TI	CAT	May 2020	1 Week	Ezra	20
17	Motor Vehicle	Mubende TI	Wheel Alignment, Wheel Balancing, Aircondition	May 2020	1 Week	Lule Ssekitoleko	14
18		Iganga TI	Automatic Transmission Service	6 Jan - 10 Jan 2020	1 Week	Sseguya Ssekitoleko	14

4-4. <Monitor the activities conducted in other BTVET institutions after participating in the activities (4-3) and provide support as required.>

-It had been scheduled to be conducted at the last year of the Project, however, due to the financial constraint of C/P fund and closure of schools owing to the COVID-19, planned monitoring activities were not conducted.

2. Achievements of the Project

2-1 Outputs and indicators

Output 1: Vocational Diploma on motor vehicle and electricity are established.

Indicator	Degree of achievement:
1) A Public-Private Partnership working group (PPP-WG) for developing diploma courses is established.	<p>Achieved.</p> <p>-In May 2015, first PPP meeting was held to develop TORs and working structures. In the PPP, 3 Working Group (WG), automobile, electricity and mechatronics were formulated. TOR for PPP-WG was reviewed in December 2015 by NVTI management Time to time, working group meeting were held to develop curriculum, to share the progress and to assess the training results.</p>
2) The curricula and assessment tools for the diploma courses developed by the working group are officially approved.	<p>Achieved.</p> <p>-Developed diploma curricula for Automobile and Electricity were approved by NCDC and finally accredited by NCHE. (2017)</p> <p>-Assessment tools development for VDAE/VDEE Year I and Year II were completed respectively in August 2018 and in February 2020.</p>
3) 80% of the instructors who participated in training of trainers (TOT) achieve at least 70% of skills and knowledge acquired from the training contents.	<p>Partially achieved</p> <p>- All instructors who regularly participated in TOT by Short term Expert (Electricity) in July 2019 and February/March 2020 achieved at least 70 % of the skills.</p> <p>- Most of the instructors in VDAE achieved more than 70% of skills and knowledge acquired from the training contents in TOT by Toyota Uganda from 2015 to Feb. 2020.</p> <p>- While a few instructors achieved more than 70% of skills and knowledge acquired in TOT by City Tyres in May 2019.</p>

Output 2: Upgrading training in Mechatronics is provided.

Indicator	Degree of achievement:
1) Upgrading training in Mechatronics is provided.	<p>Achieved</p> <p>- A trial training for preparing Mechatronics upgrading training programme was implemented in June 2017 and August 2017.</p> <p>- From February 2018, Mechatronics Upgrading Training started.</p> <p>- 67 sessions of up-grading Training (including trial</p>

	training) were conducted as of February 2021
2) 80% of the instructors who undertake training of trainers (TOT) achieves at least 85% on the training contents.	<p>Partially achieved</p> <ul style="list-style-type: none"> -An ability checklist for trainers (self-evaluation) in the field of Electronics was used to assess the result of Mechatronics instructor training on several modules. Though it was a challenge to achieve the indicator, almost all the instructors improved their performance after the training, then 75 % of them conducted upgrading training as main or assistant instructor. - After TOT had been conducted by JICA short-term expert on assembling of equipment on pneumatic system and programming, the remaining equipment was machined and assembled by Mechatronics members through TOT (In-house training). The machined and assembled pneumatic system equipment could be considered as a product of TOT. - The result of post ability check after TOT (In-house training) on PL11 showed that there was an improvement, though 2 out of 9 participants achieved the expected target. - 50 % of Mechatronics instructors who participated in TOT by short term Expert (Electricity) in February/March 2020 achieved at least 85 % of the skills.
3) At least 30 companies and 200 persons participate in the upgrading training.	<p>Achieved</p> <ul style="list-style-type: none"> -33 companies sent their employee for training. -In addition, 10 self-employed workers participated. -In Total, 262 persons participated in the upgrading training (included trial training: 9 persons) as of August 2020.
4) At least 80% of participants are satisfied with the skills offered in the programme .	<p>Achieved</p> <p>According to the questionnaire for participants during the training, 90% of respondents were satisfied with the skills offered in the programme as of Feb.2020.</p>

Output 3: NVTI's management capacity is strengthened.

Indicator	Degree of achievement:
1) Management Committees re-organized in line with strategic plan	Achieved In the Board of Governors (BOG) meeting held on February 2018, the restructuring of NVTI committees was discussed and 3 Working Groups (WG) were adapted under Institutional Management Committee (IMC), these are namely; (i) Training Management, (ii) Safety, Health, Machinery and Equipment, (iii) Collaboration and Publicity.
2) Monitoring and evaluation tools are developed.	Partially achieved One form of Human Resource management monitoring (HR Management Policy and Procedures Manual) was completed in August 2019. Indicators and means of verification to measure the degree of achievement of the new five-years strategic plan (2020-2024) have been in the process of development.
3) At least one upgrading training per department implemented according to guideline.	Achieved All departments have implemented at least one upgrading training in 2019 based on guideline.
4) At least 80% of NVTI's trainees are satisfied with employment and entrepreneurship support activities.	Achieved According to the questionnaire answered by participants of the Job fair on 3 rd Dec. 2019, 96% of respondents are satisfied with the employment and entrepreneurship support activities.

Output 4: Function of NVTI to support other BTVET institutes is strengthened.

Indicator	Degree of achievement:
1) At least 15 activities to support other BTVET institutes are conducted.	Achieved 23 trainings of instructors of the 5 RPTIs were conducted.
2) 80% of the participants in the activities conducted by NVTI are satisfied.	Achieved According to the 13 reports developed by Master trainers, 80 % of the participants were satisfied with the activities as of Aug. 2020.

2-2 Project Purpose and indicators

Project Purpose: Capacity of NVTI for human resource development responding to the needs of the private sector is strengthened.

Indicator	Degree of achievement:
1. At least 85% of companies which have industrial attachment of NVTI's diploma trainees (motor vehicle and electricity) are satisfied with their performance at least 4 out of five (5) score.	Achieved According to the questionnaire for company supervisors which have industrial attachment, more than 90% of respondents were satisfied with diploma trainees performance at least 4 out of five (5) score.
2. At least 90% of the company which send their workers for upgrading training are satisfied with the programme at least 4 out of five (5) score.	Partially achieved According to the response from company supervisors which send their workers for the upgrading training, 78% of respondents were satisfied with the programme at least 4 out of five (5) score.
3. 70% of planed action at NVTI involving private sector will be implemented.	Achieved NVTC makes work plan each term and most of activities were implemented as planned.

3. History of PDM Modification

During the project cooperation period, four version of PDM has been developed, as indicated table 1 below.

Table 15 History of PDM Modification

Version		Reasons for modification	Time
First	Original	N/A	May 2015
Second	Modified	To set target value	July 2015
Third	Modified	To add ' f) Construction of Workshop' in the input of Japanese side	Sep. 2016
Forth	Modified	One of reason was delay in input from both sides made the commencement of diploma course also delayed so to maintain the project cooperation period, target value were adjusted.	March 2018

- After the commencement of the project, with consultation of counterparts, first version of PDM was developed in May 2015. The first version was developed with Objective Verifiable Indicators only on the condition of conducting base line survey to set realistic target value for these indicators.

- Between June to July 2015, the project collected information through baseline survey and with the result, the second version of PDM was developed in July 2015.
- The third version was made in 2016 to incorporate with amend of R/D which agree to add 'construction of motor vehicle workshop for diploma course' by Japanese side.
- In March in 2018, the fourth and the most major modification made in PDM, as details of change indicated table 2 below.

Table 16 Modification of the PDM Third version to Forth Version

1. Implementing Agency:	
PDM Third Version	Amended Version (Forth Version)
Ministry of Education, Science, Technology and Sports (MoESTS)/ Nakawa Vocational Training Institute (NVTI)	Ministry of Education and Sports (MoES)/ Nakawa Vocational Training Institute (NVTI)
Reason: By reform of central government machinery in 2015, Ministry of Education, Science, Technology and Sports (MoESTS) was split into two ministries. One in charge of the project is Ministry of Education and Sports (MoES).	
2. Target Group:	
PDM Third Version	Amended Version (Forth Version)
Instructors and management staff in NVTI, Stakeholders of relevant Business, Vocational, Technical, Education and Training (BTVET) institutes	Instructors and management staff in NVTI, Stakeholders of relevant Business, Technical, Vocational, Education and Training (BTVET) institutions.
Reason: 'institution' is the term in common use in Uganda	
3. Narrative Summary: Overall Goal	
3-1 Objectively Verifiable Indicators	
PDM Third Version	Amended Version (Forth Version)
3. Activities to reflect the needs of the private sector in training are applied in 60% of the institutions which have been supported by NVTI	3. Activities involving private sector in training are applied in 60% of the institutions which have been supported by NVTI
Reason: This indicator addresses needs private sector alone and do not measure the change of TVET institutions. The amended version measures the change in institutions and private sector.	
3-2 Means of Verification	
PDM Third Version	Amended Version (Forth Version)
1. Questionnaire survey results for private companies that employ NVTI graduates 2. Survey results on BTVET institutes	1. Tracer study of graduates 2. Annual training report 3. Survey results of BTVET institutions
Reason: 1. The means of verification is not measurable to check employment level and progression for graduates of NVTI. 2. To measure the increased rate of participation of companies in upgrading course, the annual training report will be used. 3. 'Survey results of BTVET institutions is coded as '3' from '2'.	
4 Narrative Summary: Project Purpose	
4-1 Objectively Verifiable Indicators	
PDM Third Version	Amended Version (Forth Version)
1. At least 85% of companies which have employed the graduates of NVTI's diploma courses (motor vehicle and electricity) are satisfied with their performance at least than 4 out of five (5) score.	Delete

4. 80% of planned action will be implemented.	4. 70% of planned action at NVIT involving private sector will be implemented.
Reason: 1. The first students will graduate in 2020, thus the satisfaction of employers on diploma graduates are not measurable within in the project period. However, there is another indicator for satisfaction of employers on diploma students during the industrial attachment. This can be enough to check the satisfaction of employers. 4. To clarify the planned action, 'involving private sector' is added in the sentence. The percentage is changed to 70% since realization of activities are also subject to readiness of companies.	
4-2 Means of Verification	
PDM Third Version	Amended Version (Forth Version)
1. Questionnaire survey results for NVTI graduates 2. Questionnaire survey results for participants of upgrading training	1. Reports for industrial attachment. 2. Survey results from companies for participants of upgrading training 3. Number of activities implemented out of the annual plan.
Reason: 1. The means of verification is not measurable to check satisfaction of companies for performance of the trainees of diploma. 2. To measure the satisfaction of companies on performance of workers in upgrading course, survey needs to be addressed to supervisors of companies workers who participated in the training. 3. To measure the implementation of planned action, NVTI annual plan can be used.	
5 Narrative Summary: Output	
5- 1 Output 1:	
PDM Third Version	Amended Version (Forth Version)
Diploma courses in motor vehicle and electricity are established.	Vocational Diploma in motor vehicle and electricity are established.
Reason: To clarify the difference from other diploma, the term Vocational diploma is used. This vocational diploma is developed basing on the workers' profiles and is at level 4 of UVQF.	
5-1-1 Objectively Verifiable Indicators	
PDM Third Version	Amended Version (Forth Version)
1-3. 80% of the instructors who participated in training of trainers (TOT) achieve at least 80% of skills and knowledge acquired from the training contents. 1-4. 30 private companies participate in reviewing and evaluating the new diploma courses.	1-3. 80% of the instructors who participated in training of trainers (TOT) achieve at least 70% of skills and knowledge acquired from the training contents. 1-4 Delete.
Reason: 1-3 Achievement rate of skills and knowledge will be reduced from 80 percent to 70 percent. This is because, the level of skills and competences among instructors are varied which affect the level of achievement after TOT. 1-4 By the end of the project, the graduate will still be undergoing training, therefore it will be not easy to get feedback from private sector.	
5-1-2 Important Assumption	
PDM Third Version	Amended Version (Forth Version)
MoESTS and NVTI secures enough human resources and budget required for the Project implementation	MoES and NVTI secures enough human resources and budget required for the Project implementation
Reason: Same reason as amendment made in 1. Implementing Agency	
5-2 Output 2	
5-2-1 Objectively Verifiable Indicators	
PDM Third Version	Amended Version (Forth Version)

2-2. 80% of the instructors in TOT (master trainers) achieves at least 85% on the training contents.	2-2. 80% of the instructors in training of trainers (TOT) achieves at least 85% on the training contents.
Reason: To maintain the consistency in using term 'TOT, (master trainers) will be replaced with 'training of trainers (TOT)'. 1. Implementing Agency and 5-1-2	
5-2-2 Important Assumption	
PDM Third Version	Amended Version (Forth Version)
MoESTS and NVTI secures enough human resources and budget required for the Project implementation	MoES and NVTI secures enough human resources and budget required for the Project implementation
Reason: Same reason as amend made at 1. Implementing Agency and 5-1-2	
5-3 Output 3	
5-3-1 Objectively Verifiable Indicators	
PDM Third Version	Amended Version (Forth Version)
3-1. 80% of the planned activities for promoting public private partnership are implemented. 3-2. 80% of the upgrading training is implemented according to the action plan. 3-3. At least 15 activities in at least 2 types of vulnerable groups are conducted to promote their participation in NVTI's training. 3-4. At least 90% of NVTI's trainees participates in employment and entrepreneurship support activities (seminar, workshop, consultation).	3-1. Management Committees re-organized in line with strategic plan. 3-2 Monitoring and evaluation tools are developed. 3-3 At least one upgrading training per department implemented according to guideline. 3-4 At least 80% of NVTI's trainees are satisfied with employment and entrepreneurship support activities.
Reason: To measure output 3, the following process will be followed: 1) re-organization of committees (3-1), 2) development of monitoring and evaluation tool (3-2), 3) record of activities (3-4) s and 4) conducting a satisfaction study on the beneficiaries of the activities (3-4). 3-1 planned activities are selected from NVTI Strategic plan (2015-2019). 3-4 'supporting activities' is used to represent activities such as seminar, workshop, consultation, and industrial attachment, those are conducted for job placement.	
5-4 Output 4	
PDM Third Version	Amended Version (Forth Version)
Function of NVTI to support other BTVET institutes is strengthened.	Function of NVTI to support other BTVET institutions is strengthened.
Reason: 'institution' is the term in common use in Uganda	
6 Activities	
6-1 Output 1	
PDM Third Version	Amended Version (Forth Version)
1-10. Revise the programmeme based on the results 1-9. 1-11. Recognize the training within UVQF and/or IQF	1-10. Revise the diploma curriculum based on the results 1-9. 1-11. Recognize the diploma curriculum under level 4 of UVQF.
Reason: 1-10 To maintain the consistency in using term, programme will be replaced with 'curriculum' 1-11 This activity is to obtain UVQF (Uganda Vocational Qualification Framework) level 4 recognition of diploma curriculum (electricity and automobile) which justifies the skills competence introduced in diploma within UVQF, therefore, the term 'training' will be replaced with 'diploma curriculum'. IQF (international qualification framework' will be deleted as UVQF remains.	
6-2 Output 2	
PDM Third Version	Amended Version (Forth Version)

<p>2-2. Develop training contents, materials and assessment tool for upgrading training</p> <p>2-3. Select instructors (electronics, machining)</p> <p>2-8 Revised the training programme based on the results of 2-6</p> <p>2-9 Recognize the training within UVQF and/or IQF</p>	<p>2-2. Develop training modules, materials and assessment tool for upgrading training</p> <p>2-3. Select instructors from Electronics, Machining and Electricity</p> <p>2-8. Revise the training modules based on the results of 2-6.</p> <p>2-9 Recognize the training modules within UVQF level 4</p>
<p>Reason:</p> <p>2-2 the term ‘modules’ is more common to explain training unit used for upgrading training.</p> <p>2-3 the mechatronics upgrading training is cross cutting training course at NVTI, therefore, instructors are selected from various department.</p> <p>2-8 Same reason mention at 2-2 above, the term, programme will be replaced with ‘modules’.</p> <p>2-9 To maintain the consistency in using term, ‘training’ is replaced with ‘training module’. This activity is to obtain UVQF (Uganda Vocational Qualification Framework) level 4 recognition for training module (mechatronics) which justify the skills competence introduced in upgrading course at NVTI within UVQF. IQF (international qualification framework’ will be deleted as UVQF remains.</p>	
<p>6-3 Output 3</p>	
<p>PDM Third Version</p>	<p>Amended Version (Forth Version)</p>
<p>3-1. Develop a plan of actions (strengthening of public private partnership, planning and management of upgrading training, promotion of equitable access, strengthening of employment support activities) for the Committee on Institute Management</p> <p>3-2. Develop the TORs</p> <p>3-3. Assign persons in charge for each of the planned activities (3-1)and provide guidance as needed</p> <p>3-4. Implement public private partnership through activities (e.g. Including training needs assessment, industrial attachment programmes, joint curriculum development and joint evaluation of the training)</p> <p>3-5. Implement and manage upgrading and tailor made training programme</p> <p>3-6. Conduct activities for promoting participation of vulnerable groups (e.g. women and persons with disabilities) in NVTI’s training</p> <p>3-7. Implement employment and entrepreneurship support to NVTI’s trainees</p> <p>3-8. Review the implementation and revised the plan (if necessary)</p>	<p>3-1. Modify TOR of management committees in line with NVTI strategic plan</p> <p>3-2. Conduct staff training to build capacity to implementing and monitoring of strategic plan</p> <p>3-3. Implement selected activities in strategic plan</p> <p>3-4. Improve the management of upgrading and tailor made training programme (Output2:2-6/2-7)</p> <p>3-5. Introduce employment and entrepreneurship support to NVTI’s trainees</p>
<p>Reason:</p> <p>Activities of output 3 are revisited based on the current situation in NVTI. Activities are reformulated to achieve the output 3 within project period by focusing on; 1) re-organizing management committee, 2) conducting capacity building, 3) carry out activities selected from strategic plan.</p>	
<p>6-4 Output 4</p>	
<p>PDM Third Version</p>	<p>Amended Version (Forth Version)</p>
<p>4-4. Monitor the activities conducted in</p>	<p>4-4. Monitor the activities conducted in</p>

other BTVET institutes after participating in the activities (4-3) and provide support as required	other BTVET institutions after participating in the activities (4-3) and provide support as required
Reason: 'Institution' is the term in common use in Uganda	
7. Input	
7-1 Japanese side	
PDM Third Version	Amended Version (Forth Version)
a) Long-term experts : <u>3 persons in the fields such as;</u> Chief Adviser/Public-Private Partnership, Curriculum Development/Human Resource Development Management, Project Coordination/Monitoring and Evaluation	a) Long-term experts -Chief Adviser/Public-Private Partnership, Curriculum Development/Human Resource Development Management, -Electricity. -Supervision of workshop construction -Project Coordination/Monitoring and Evaluation
Reason: a) The fields of support for long term experts were extended to include Electricity and Supervision of workshop construction and the number of experts increased to more than 3 persons, thus the number (3) was deleted.	

III. Results of Joint Review

1. Results of Review based on DAC Evaluation Criteria

1-1 Relevance

(1) Government policy in Uganda

The TVET-LEAD project is relevant in addressing policy issues in the BTVET sub-sector basing on the Strategic Plan 2011-2020 "Skilling Uganda" which aims to;

- Increase the relevance of TVET programmes
- Enhance the quality of TVET delivery
- Improve the perception of TVET among youth, parents and society in general.

In the policy, four main interventions are considered critical for a successful TVET reform:

Through realizing following actions; such are 1).Building a comprehensive Public-Private Partnership (PPP); 2) Ensuring a strong and focused TVET management controlled by all major stakeholders; 3)Defining the requirements of the world of work as the benchmark for all TVET programmes and qualifications; 4)Reforming the system of financing TVET in order to achieve long-term sustainability.

The objective of the strategic plan is to enhance the capacity of BTVET institutions to deliver high-quality, demand-driven training programmes in target sectors.

In 2019, the TVET policy was introduced which was based on the Skilling Uganda Strategic Plan whose overall aim was to train a highly skilled and competitive workforce. **Therefore, the project is in line with TVET policy of Uganda.**

(2) Government policy in Japan

Along with Japan's ODA Policy: 'Poverty Reduction through Economic Growth and Regional Disparity Support', the Japan is supporting the economic growth of Uganda and neighboring countries by implementing infrastructure development and human resource

development.

Based on the ODA policy, Japan is focusing four areas of development in Uganda, (1) Improvement of the environment for achieving economic growth, (2) Improvement of income through agriculture development, (3) Improvement of living environment, (4) Social stability in Northern Uganda. Among these, the project strongly responding the first area '(1) Improvement of the environment for achieving economic growth'. In line with this objective, Japan is aim to contribute to the realization of sustainable economic growth of urban networks through infrastructure development, while paying attention to project formation utilizing Japanese technologies and knowledge. Japan will support in development of BTVET (Business, Technical Vocational Education and Training) sector through capacity development for industrial human resource.

In 2013, In the Tokyo International Conference on African Development (TICAD) V at which the importance of human resource development in Africa was highlighted and NVTI was selected as one of CoEs for industrial human resource in Africa. **Therefore, the project is in line with the direction of the government policy of Japan.**

(3) Needs of the project

Currently, number of skilled human resources in Uganda is limited and the BTVET institutions in Uganda do not fully satisfy the needs of the private sector. Many of highly-paid technical jobs tend to be occupied by foreign workers rather than Ugandan people. It was urgent to produces a sufficient number of skilled human resources in order to maintain the economic growth and benefit the Ugandan society.

Other area of need was to strengthen the capacity of TVET institutions to deliver quality training. NVTC was required to collaborate with the private sector for designing practical training courses, improve its vocational training management and disseminate its experience to other BTVET institutions. **Therefore, the project was in line with needs of Ugandan government.**

1-2 Effectiveness

The effectiveness of the Project is **relatively high** because the project purpose is achieved in line with the indicators and the accomplishment of four outputs before the termination of the project.

The main purpose of the project is to strengthen capacity of NVTI for human resource development responding to the needs of the private sector. It was great impact to establish two vocational diploma courses, VDEE and VDAE on top of basic course (certificate) at NVTI which enabled to produce competent technicians backed by the both knowledge and practical skills. (output1). In addition, upgrading course for mechatronics was provided to support capacity development of skilled workers in private sectors (output2). To allow these training course to receive active support from

world of work in developing programme and training of human resource, PPP Working Group (WG) was established. With technical support given by private sectors through PPP WG, NVTC developed training curriculum with guidance of both DIT and NCDC. PPP WG also supported capacity development of instructors who were assigned to teach in vocational diploma programme..

Through the project, NVTC established the collaboration mechanism with 5 technical institutions in Uganda and conducted outreach training to retool instructors in those institutions.

It is also important to say that these activities were backed up by the strengthening of NVTI's management capacity (output 3) and restructuring of the management committees. In this way, the accomplishment of the output contributed to achievement of project purpose.

In terms of indicators, as the first indicator explains that satisfaction of company on diploma students' performance of industrial attachment in the companies shows the target values exceeded, thus indicator 1 was achieved in 2021. The second indicator explains that satisfaction of company with the upgrading programme for workers was partially achieved in 2021 because the result of 3 post training surveys revealed the company's satisfaction was slightly below to the target value. However, due to interruption of activities caused by COVID-19 pandemic, post monitoring survey could capture only 13 out of 33 companies, so NVTC shall continue post monitoring survey to clarify the actual result. Lastly, the indicator 3 was achieved because workplan developed by NVTI each term in line with the project activities were mostly implemented. It is also worth to note that study trip to Rwanda to learn the experience of Tumba college of technology together with TVET development, was a good eye-opening opportunity for instructors and staff to look at the future of NVTI as a college status.

Furthermore, these outputs contributed to the achievement of the project purpose through (1) the establishment of Vocational Diploma on motor vehicle and electricity, (2) Provision of Upgrading training in Mechatronics, (3) strengthening of NVTI's management capacity, and (4) strengthening of function of NVTI to support other BTVEIT institutes. Therefore, the project design was logically established between the project purpose and outputs, which contributed to the achievement of the project purpose.

1-3 Efficiency

Generally, in terms of achievement of the project purpose, the inputs were fairly transferred into the outputs, thus, efficiency of the project is **relatively high**. As table below shows, the project cost slightly increased compared with the planned one due to the extension of the project period. The project schedule was extended twice, originally, it was extended for 6 months (from March 2020 to September 2020) to support full length of 1st cycle of diploma programme which was expected to be finished by August 2020. The main

purpose of this 6 months was to review and evaluate 1st cycle of diploma programme thus there was no additional activity added. To sustain the activity in extended period, NVTI provided project counterpart fund meanwhile JICA dispatched experts for implementing planned activities and counterpart budget. However due to the COVID-19 pandemic, all schools were closed from March to October 2020, therefore project was extended further for additional 6 months. Thus, the project schedule was extended by one year from the planned schedule.

Although, during the implementation period, the project faced delays of schedule in starting diploma training as well as delay in construction of Motor vehicle workshop, however, when you refer to the results of output 1, the target value of indicators were attained, thus the efficiency was not affected by delays of the schedule.

On the other hand, due to budget constraint faced by JICA in 2018, some planned activities such as training in Japan had been cancelled and procurement of training materials from Japan suspended that year. To cope with these challenges, the project tirelessly explored the possibility of training with private sectors to build up the capacity of instructors. This, also contributed to maintain the efficiency of the project even though the actual cost of training was smaller than had planned.

Table 17 Total Project budget by JICA side

	Planned	Actual
Project Cost	16,865,590,000 UGX 479 million JPY	17,921,890,000 UGX 509 million JPY
Project Schedule	March 24, 2015-March 24, 2020	March 24, 2015-March 24, 2021
Training	3,870,967,000 UGX 96 million JPY	524,193,000 UGX 13 million JPY
Materials	2,816,800,000 UGX 80 million JPY	5,211,080,000 UGX 148 million JPY

Table 18 In kind input made by Uganda side

	In-put by MOES	Requested	Actual
a	MoES TO Provide Two (2) counterpart personnel	2	2 Counterparts
b	Avail Suitable Office Space	Adequate	3 offices
c	Supply of other Machinery, Equipment, tools & Materials	Adequate	
d	Support JICA Experts in obtaining information on medical services	Adequate	Fully supported
e	Obtaining credential to JICA Experts	Adequate	Fully supported
f	Avail data and information related to project	Adequate	Fully Availed
g	Running Expenses for project implementation	Adequate	Partly provided
h	Meet Expenses for transportation of equipment within Uganda	Adequate	Partly provided
i	Necessary facilities to JICA Experts in connection to project implementation	Adequate	Availed

Output 1: Vocational Diploma on motor vehicle and electricity are established.

Although the Output1 is nearly achieved along with the initial project design, regarding to the capacity development of instructors, the achievement of skills and knowledge from TOT (indicator 2) were not attained to target value. One of reasons could be delay in staff allocation and frequent transfer of assigned staff to other institutions, thus it was difficult to ensure continuous capacity building of each instructors.

Output 2: Upgrading training in Mechatronics is provided.

Although the Output 2 was nearly achieved along with the initial project design, capacity development of instructors, the achievement of training contents from TOT (indicator 2) was not met to target value. The main reason could be loss of capacity building opportunity due to cancellation of training in Japan due to JICA's budget short in 2018 and suspension of dispatch of JEED expert due to COVID-19 in 2020.

Output 3: NVTI's management capacity is strengthened.

Although the Output 3 was nearly achieved along with the initial project design, the development of monitoring and evaluation tools are not completed (indicator 3). This work was plan to be incorporate with development of NVTC's new five-years strategic plan (2020-2024). The final draft of the plan was developed in December 2020, NVTC shall continue working on finalized the document.

Output 4: Function of NVTI to support other BTVET institutes is strengthened.

Output 4 was achieved and collaboration mechanism of NVTC to support other BTVET institution is established.

1-4 Impact

Although it is still early to assess the accomplishment of the overall goal , 'NVTI becomes a Center of Excellence (CoE) which produces industrial human resource responding to the needs of the private sector", at this moment, prospect for attainment is **relatively high**, three year after the termination of the project (refer to IV).

In addition, the following impacts are already observed from the implementation of the project.

(1) Positive impact

- Awareness for supporting job placement of trainees among instructors was raised by creation of Industrial training committee and frequent exchange with private sectors.
- Vocational diploma is a training programme which respond to deliver two certificates, both of DIT and UBTEB. This is strongly supporting the direction of TVET Policy which plan to introduce national qualification frame work (NQF) to certify the skills

competence of learners.

- Starting of mechatronics training made NVTI to work with new partners in private sectors.
- Supporting 5 technical institutions by offering re-tooling of training skills contributed to effective utilization of training equipment which GOU supplied through support of development partners.

(2) Mixed Impact

- Due to COVID-19, training activities were interrupted, especially for the practical training which is essential to produce industrial human resource, however, the project turned into opportunity by establishing the foundation for online training in NVTC by conducting TOT for diploma trainers on Edmodo. Currently, the department of pedagogy which is in charge of DITTE (instructors training) is also planning to start online training.

(3) Negative Impact

- The Staff trained with project support including those assigned to teach diploma program were transferred to other institutions. It is unfortunate to mention that these transfers were made before completion of technical transfer to other instructors.
- Delay in implementing the restructuring of NVTI into an operational college with required staff caused anxiety and speculation among the staff about their positions in future. It was not easy for each instructor to keep up their motivation and engage with project activities.
- NVT conducted quiet many training business at site and outside of NVTC and most of the counterparts had many engagements not only the TVET LEAD project but also with other development partners like HWK and ENABEL. Therefore, securing necessary time for TOT and other project activities was not easy.
- The strong demand for training diploma in electricity (VDEE) and upgrading training for Mechatronics caused shortage of space in terms of workshop and classes. Although NVTC had provided space to accommodate the programmes, the number of applicants in subsequent intakes increased putting a lot of pressure on the available space.
- Due to COVID-19, all education and training institutions were closed from March to October in 2020. This caused changes in the school calendar and interrupted assurance of quality in training delivery.

1-5 Sustainability

The Sustainability of the project is **moderate** because more efforts need to be paid in technical and financial aspect to assure maintaining of the project results.

(1) Policy aspect **(High)**

As mentioned in the relevance, the Strategic Plan 2011-2020 “Skilling Uganda describes the importance of skilled workforce and this direction is further strengthened by establishment of ‘TVET policy’ in 2019 which is addressing the sector reform to enable the training of a highly skilled and competitive workforce. Thus, NVTC will be the key TVET institution to lead realization of TVET policy.

(2) Management aspect **(High)**

Through the Project cooperation, NVTC developed diploma programme which enable the institution to gain the college status. Project also supported the strengthening of management by supporting reform and implementation of working committees which are flamed in the NVTC 5 years strategic plan. NVTC is now to start new 5 years strategic plan, so it is encouraged to continue working in this way. However, management structure of NVTC is not yet transformed into the collage level, it is required to put this shift as soon as possible which give more strengthen in sustainability of the project outcomes.

(3) Technical aspect **(moderate)**

➤ Output 1

Through the Project cooperation, capacity of instructors who were assigned to diploma programme was built. However, some of the trained staff were transferred to other institutions and technical transfer for those who remained and the new ones who were posted was slow due to the interruption caused by COVID 19. These new instructors require capacity building in developing 4 set materials as well as competencies in practical skills. The number of trained instructors for diploma training need to be increased more to sustain and expand the training course.

➤ Output 2

The same challenge described above (output 1) applies to output 2. The capacity of instructors in understanding and teaching mechatronics was built through the technical transfer and by experts through JEED training in Japan. However, to allow each instructor to conduct the upgrading training independently requires more practice through In-House training to master the practical skills. Currently, only one instructor can conduct the course independently. To ensure sustainability of upgrading training course, frequent in house training need to be carried out.

(4) Financial aspect **(moderate)**

During the cooperation period, the project faced delays and suspension of activities due to late disbursement of counterpart funds from the MoES. To cope up with the gap between the arrival of funds and activity schedule, NVTC made tireless effort to meet

counterpart costs by soliciting funds internally. Due to the COVID-19 pandemic, many income generation activities in NVTC were suspended which created financial crisis in managing business. It is not clear at this moment if sustainability in financial aspect will be maintained. It is hoped that MoES will continually disburse funds to NVTC so to sustain the project results.

2. Key Factors Affecting Implementation and Outcomes

During the last year of project period, the project activities affected much from the COVID-19 pandemic. In the analysis below, the affecting matters from COVID-19 will be presented separately.

a) Delay of official approval of ‘Establishment of new diploma courses in NVTI’

‘Establishment of new diploma courses in NVTI is officially approved before the Project starts’, was set as a precondition to start the project. However, the elevation of NVTI to college took a longer process which caused a delay of starting of diploma course.

a-1) The approval of NVTI as a college delayed because it required the availability of a training programme whose completion had to go through several processes.

Immediately after the project started in March 2015, several consultations with MoES were conducted seeking the status of approval process of diploma program by Uganda side. Later on, MoES informed the project that the diploma curriculum and teacher’s guide had to be presented for approval before establishment of the diploma course.

To catch up with the delay of approval process by Uganda side, the project supported NVTI to conduct several meetings with stakeholders to clarify the procedure and to draft a road map for diploma programme development. NVTI requested DIT and NCDC for support in developing curricula to speed up the process.

The procedure for accreditation and time schedule had been agreed upon through a series of meetings held with PS, Minister of state for Higher Education, JICA, NVTI and Project staff in July 2016. Following the procedure, NVTI submitted the draft curricula for vocational diploma to PS MoES. The Minister of Education requested BTVET department to take the necessary actions for approval and accreditation with NCDC and NCHE in the shortest possible time. NCDC approved the curricula for vocational diploma and recommended it to be forward to NCHE for accreditation. On 22nd November 2017, MoES sent a request to NCHE for accreditation of NVTI.

a-2) Accreditation of Vocational diploma programme at NVTI was delayed, awaiting accreditation of the institute.

On 14th February 2017, NVTI wrote a letter to NCHE requesting for accreditation of the institute to a Diploma awarding status. On 24th March 2017, NCHE responded and indicated that this request should come from the Minister of Education and Sports. On

6th March 2017, a meeting between MoES, NVTI, NCHE and JICA staff was held and agreed on a road map towards accreditation of NVTI to a Diploma awarding status. On 14th March 2017, the Hon. Minister of Education and Sports wrote another letter to NCHE requesting for accreditation of the institute to a Diploma awarding status. On 21st March 2017, NCHE wrote to Hon. Minister of Education and Sports requested for setting up of a 5 member Taskforce with terms of reference to undertake a situational analysis of NVTI in preparation for accreditation. The letter spelt out the timeframe to deliver the expected outputs.

a-3) Delay of approval by parliament to upgrade the institution to a public college level
On 26th February 2018, NVTI received a letter from National Council for Higher Education (NCHE) on accreditation of VDAE during its 46th Meeting of 20th February 2018.

Following this letter, Permanent Secretary of MoES exchanged official communication with Solicitor General of Ministry of Justice and Constitutional Affairs requesting for guidance on the draft statutory instrument for elevation of NVTI to a Tertiary Institution

In mid-June 2019, MoES submitted the final statutory instrument endorsed by the Minister of Education and Sports to the Solicitor General, then the gazette on establishment of Nakawa Vocational Training College was published on 5th July 2019. In late Nov. 2019, the Minister of State for Higher Education laid the Statutory Instrument to upgrade NVTI to Nakawa Vocational Training College on the floor of Parliament and all the governmental process for approval was completed. From December 2019, NVTI changed the name to Nakawa Vocational Training College.

b) Shortage of workshop space for training in Motor Vehicle maintenance.

b-1) Identification of needs.

In May 2015, Mr. Hashiguchi, a JICA expert for Motor Vehicle training and instructors of MV at NVTI assessed that the space for the Workshop for Motor Vehicle Department and found out that the present workshop for basic course was limited in accommodating the diploma training. NVTI developed a costed extension plan based on the projection of workshop utilization for all the training programmes in Motor vehicle. Later on, a detailed design plan was submitted to JICA office.

b-2) Signing Memorandum of Cooperation (MoC) for construction of Motor Vehicle workshop delayed.

For the construction of Workshop for Diploma course in Automobile Engineering, MoC between JICA Uganda office and MoES was finally signed at the end of June, 2016 in which both sides agreed on the modality of construction as well as demarcation of responsibilities and costs. The discussions on the MoC had been conducted since October 2016, and as of January 2017, the draft was confirmed by the Permanent Secretary (PS) MoES and awaited clearance by Solicitor General. Nonetheless, MoES withdrew its confirmation due to the lack of internal consensus on the modality of

construction, and the process went back to where it started. Although demarcation of responsibilities had been agreed upon in the MoC in June. CMU delayed to submit the approval letter for the design of Motor Vehicle Workshop to JICA as well as acquisition of the Construction Permit.

b-3) Delay in securing construction permit for Automobile Workshop

This was caused by the delay in processing the required land title for NVTI by Uganda Land Commission which was a prerequisite for processing the construction permit.

NVTI management wrote a letter to PS MoES requesting for his intervention in processing the land title for NVTI. NVTI wrote to KCCA requesting for permission to construct the workshop while awaiting the processing of a land title.

The delay of this construction schedule caused challenge when the diploma training begun in September 2017 due to inadequate space for storage and installation of equipment and training for mastering utilization of new equipment.

b-4) Delay in securing occupation permit for Automobile Workshop

Automobile Workshop was completed and handed over to NVTI at the beginning of April 2019 and was commissioned officially in 6th June. However, a local consulting company, KK Partnership Architects (KKPA), had not submitted the necessary document to KCCA for issuing of an occupation permit to NVTI allow the Workshop to be used.

The delay for issuing an occupation permit caused a challenge when the first semester of Diploma training started in August 2019 due to inadequate space for classroom.

c) Delay in recruitment of additional instructors for diploma programme.

There was an agreement that MoES will allocate sufficient qualified staff before the commencement of the project. The project identified the gap in numbers, to start capacity development of instructors for diploma program, additional instructors (1 in motor vehicle and 5) in electricity were required. The number of staff required was indicated in college proposal which was presented to BOG on 31st July 2015. NVTI requested BOG for immediate intervention for solving the issue along with the counter measure such as supporting NVTI instructors who were competent with skills to upgrade their academic qualification to meet the minimum requirement to teach the diploma program.

d) Delay of Electricity Equipment from Japan.

TOT for Electricity instructors delayed due to budget shortage of JICA in 2018.

e) Cancellation of Mechatronics Equipment batch 4 (Mechatronics D: Motor and Motor system)

Equipment of Motor and Motor System for Mechatronics was rescheduled and later on cancelled due to budget shortage by JICA in 2018.

f) Delay in quality assurance for the diploma programme

Lack of core staff for assuring the quality of classes conducted for the diploma

programme.
g) Assessment of students of VDAE and VDEE by DIT
Although, the Project and NVTI had several meetings and confirmed that DIT would conduct Assessment (UVQF Level 4) at the end of Diploma programme. Sharing of its roadmap (assessment schedule) by DIT delayed.
h) Evaluation and review of 1st cohort of Diploma programme
Activities for the first cycle of training for Diploma programme will not be completed within project period ending in Mar. 2020. Thus, several planned activities including the 2 nd industrial training and assessment for UVQF level 4 will not be undertaken. Therefore, the evaluation and review of the programme will not be undertaken.
i) Budget constraint of JICA for JFY 2018
JICA faced a severe budget constraint in the Japanese Fiscal Year (JFY) 2018 which caused a delay of input from Japanese side to the Project.
j) Under disbursement of counterpart budget.
During first year of the project, the counterpart funds had not been disbursed due to the fact that the project started during the 2 nd quarter of the Ugandan financial year. As a counter measure, NVTI mobilized its own locally generated funds, however, procurement of heavy engine vehicle for training was postponed due to lack of resource allocation for taxation from government. NVTI submitted a Project profile to MoES and a costed work plan was also presented projecting 720,000,000 UG shillings for counterpart funds and 250,000,000 UG shillings for taxes in the F/Y 2016/2017.

【COVID-19】 as factor of Affecting Implementation and Outcomes

a) Delay of the project activities due to COVID-19
All instructors and staff were asked to work from home as NVTC closed school on 20 th Mar. 2020 As an evacuation measure by JICA, Project Coordinator was returned to Japan temporarily and Chief Advisors' two fieldwork were suspended. Some of major delayed activities are monitoring of training, Industrial Training and UVQF assessment.
b) Incompletion of the project activities due to COVID-19
Some of the project activities were suspended during the school closure. During this period, most of staff and instructors were ask to conduct remote work.
c) Suspension of the diploma programme due to COVID-19
NVTC closed school on 20 th Mar. 2020 and classes for the diploma programme were also suspended. There was a risk that students would lose opportunity of learning during the closure of schools especially among the modules requiring practical sessions and industrial training due to the social distance required by the safety standards. These modules gives essential competency in the vocational diploma which enable students to

have quality assured skills for the world of work.
d) Delay in quality assurance for the diploma programme
There was delay in the preparation for class in Semester II and lack of review of the class in Semester I for assuring quality in the diploma programme.
e) Lack of funds for implementing diploma programme
In addition there was inadequate government support in providing funds for implementing diploma programme and some staff who were on the BOG payroll had their contracts suspended due to the COVID-19 pandemic.

3. Evaluation on the results of the Project Risk Management

During the last year of project period, the project activities affected much from the COVID-19 pandemic. Thus, the evaluation of the results of the risk management on COVID-19 will be presented separately.

a) Delay of official approval of 'Establishment of new diploma courses at NVTI'
The Director HTVET/ MoES informed the 9th JCC that NVTI had been elevated to a college by the Statutory Instrument authorized through the Uganda gazette of Aug 2019. On 21st Nov. 2019, the Minister of State for Higher Education, was delegated by Minister of Education and Sports, and laid the Statutory Instrument to upgrade NVTI to Nakawa Vocational Training College on the floor of Parliament in Nov.2019 and all the governmental process for approval were completed. From December 2019, NVTI changed the name to Nakawa Vocational Training College (NVTC). On 17 th Dec. 2019, PS MoES wrote a letter to JICA CR informing him about the change of status from NVTI to Nakawa Vocational Training College (NVTC), and that all the governmental process for approval had been completed.
b) Shortage of workshop space for Motor Vehicle training.
NVTI provided a classroom for VDAE to be used until the occupation permit was secured. From Oct. 2019, NVTI temporarily used classrooms of the new Workshop to conduct training following the new curriculum of VDAE, while waiting for the internal process to be completed by KCCA. On 13 th Nov. 2019, JICA Uganda wrote a letter to Director of Directorate of Physical Planning, KCCA requesting to expedite the internal process of issuing an occupation permit so that NVTI can utilize the Workshop promptly. On 2 nd Dec. 2019, KCCA issued occupation permit to NVTC. From January 2020, the workshop was opened for training of diploma program.
c) Delay in recruitment of additional instructors.
MoES assigned 4 instructors for diploma programme (VDAE:2, VDEE: 2), while 2 instructors for diploma programme (VDAE:1, VDEE: 1) were transferred from NVTC in Feb. 2020.
d) Delay of Electricity Equipment from Japan

Because of the delay in delivering electrical equipment from Japan, the Project made local procurements in February and March 2018.

Electrical equipment for VDEE (Year I) procured in Japan was finally delivered to NVTI in May 2019. NVTI arranged the equipment in the cabinet in the storeroom of VDEE.

TOT for instructors of Electrical Department etc. on the modules for Electrical Circuit I (VDEE1105) and Electrical Measurement (VDEE 2115) was conducted in July 2019 by a short-term expert. NVTI also requested UETCL to provide industrial attachment to instructors in form of ToT.

In order to deliver **Electrical equipment for VDEE (Year II)** smoothly from Japan to Uganda, NVTC and the Project prepared the necessary documents to submit to URA.

The equipment was finally delivered to NVTC on 30th Jan. 2020 before the start of Semester II. The Project and NVTC immediately conducted a joint on-site-inspection at the same day and started to move the equipment to the storeroom at the beginning of Feb. 2020. NVTC transformed a classroom of VDEE into a storeroom of the equipment with cabinets, and instructors started to arrange the equipment.

JICA dispatched a short-term expert in Feb. 2020 to conduct TOT for instructors of Electrical Department etc.

MoES secured the budget for customs clearance at the airport and domestic transport of the equipment. MoES prepared the necessary documents to submit to URA so that the customs clearance at the airport is implemented smoothly on arrival of electrical equipment from Japan.

e) Cancellation of Mechatronics Equipment batch 4 (Mechatronics D: Motor and Motor system)

As a result of Budget constraint on JICA side in early JFY 2018, the 4th batch of equipment was cancelled. This report was made by Chief Advisor of the Project in 8th JCC (28th Feb. 2019) and adapted by members.

Because of time constrain, the Project decided to conduct Mechatronics training on Motor and Motor System without training materials.

f) Delay in quality assurance for diploma programme

Management of NVTI has tasked the Diploma Coordinator to check the instructional materials developed and Deputy Principal Training to closely monitor the implementation of the training. NVTI and the Project have been experimenting the assessment of the Diploma class by students of VDAE and VDEE using "Daily Monitoring Sheet". Based on this feedback, NVTI and the Project made suggestions for the improvement of the management of the programme and the quality of class.

The Project purchased the 325 textbooks of VDAE/ VDEE (related to each module) in March 2019 to improve the level of understanding of students. Later on JICA disbursed the budget for the purchase of 37 additional textbooks of VDAE /VDEE.

g) Assessment of students of VDAE and VDEE by DIT

On 5th Feb. 2020, DIT informed NVTC by letter of the draft road map for Vocational Diploma (UVQF level 4) assessment which was to be implemented from 20th to 24th April 2020.

h) Evaluation and review of the 1st cohort of Diploma programme

On 30th Sep.2019, the Minister of Finance, Planning and Economic Development wrote a letter to JICA Uganda requesting for an extension of the project implementation period for six months. On 10th Oct. 2019, JICA agreed to extend the project implementation period for six months based on the request from the Minister. On 18th Oct. 2019, Minutes of the Meeting on amendment of R/D of the Project on the 6-month extension of the Project period were signed between JICA CR and PS Mo.

i) Budget constraint of JICA for JFY 2018

NVTI decided to put priority on the construction of Automobile Workshop and put off the purchase of equipment for VDEE from Japan and training in Japan.

On 24th May,2018, NVTI wrote a letter to Permanent Secretary (PS) of MoES requesting to spend 266 Million UGX (186 Million UGX and 80 Million UGX meant for the access road and workshops and seminars respectively) for procurement of training equipment for VDEE from F/Y 2017/2018 budget.

On 18th June, PS of MoES wrote official letter to his counterpart in the Ministry of Finance, Planning, and Economic Development (MoFPED) requesting to permit NVTI to use the released counterpart fund (266 Million UGX) for Re-surfacing of the access road and for Workshops and Seminars to facilitate local procurement of equipment for VDEE programme in the F/Y 2017/2018. This request was not permitted.

j) Under disbursement of counterpart budget.

NVTI submitted a Project profile to MoES and a costed work plan was also presented. A budget for 720,000,000 UG shillings for counterpart funds and 250,000,000 UG shillings for taxes in the F/Y 2016/2017 was approved. By end of financial year in June 2017, UGX440,723,000 had been disbursed to NVTI.

The followings are activities awaited disbursement of more from MoES.

- Procurement of additional tools and equipment
- Procurement of furniture and fittings
- Repairing institute's access roads
- Training of project counterpart personnel

For F/Y 2017/2018 a budget of UGX. 702m was approved as counterpart budget for TVET LEAD project. NVTI made a plan and undertook the following activities;

- Repair the workshop access road,
- Develop instructional materials and assessment tool for Automobile and Electricity Diploma programs,
- Support staff capacity development through trainings abroad, industrial attachment and in-house training

- Procure more furniture for classroom and workshop
- Facilitate JCC meetings and PPP workshops
- Supporting other preliminary activities for the construction of Motor Vehicle workshop

Evaluation on the results of the Project Risk Management on COVID-19

<p>a) Delay of the project activities due to COVID-19</p> <p>GoU Due to school closure for all schools in Uganda, it was difficult to take any action for mitigation.</p> <p>JICA: While experts operated project activities from Japan remotely, JICA supported airtime for C/P and PA to continue the activities and monthly salary for PA.</p>
<p>b) Incompletion of the project activities due to COVID-19</p> <p>GoU Minister of Finance, Planning and Economic Development (MoFPED) submitted a letter to JICA Uganda, requesting an extension of the cooperation period of technical cooperation projects which had been scheduled to end between Mar. and Jun. 2020 by 6 months.</p> <p>On 24th June 2020, PS MoES requested JICA to extend the project cooperation period.</p> <p>JICA Taking the request of project extension from MoFPED into account, JICA Uganda replied to MoFPED, on 1st June, also considering the possibility of extension of the period of TVET-LEAD Project which was supposed to end in September 2020.</p> <p>Minutes of the Meeting on amendment of R/D for the 6-months Project extension were signed between JICA CR and MoES PS, effective as of 24th June 2020.</p> <p>With this amendment, the Project will continue cooperation until 24th March 2021.</p>
<p>c) Suspension of the diploma programme due to COVID-19</p> <p>GoU MoES encouraged BTVET institutions to start online lessons during the closure of schools.</p> <p>JICA When the project experts shared the idea of support on the use of Edmodo Learning Management System for Diploma instructors, JICA discussed internally the possibility of support.</p>
<p>d) Delay in quality assurance for the diploma programme</p> <p>GoU MoES DIT informed NVTC of the revised schedule for assessment of Vocational Diploma UVQF level 4 which was to be implemented from 15th to 19th March 2021. In February 2021, prior to assessment, DIT conducted a moderation workshop with NVTC and industry to finalize the assessment materials.</p>
<p>e) Lack of funds for implementing diploma programme</p> <p>MoES requested MoFPED the budget for FY 2020/2021.</p>

JICA supported NVTC to implement the diploma programme by overseas activities budget.

4. Lessons Learnt

(1) Effective utilization of outcomes from former JICA projects.

Project could utilize several assets from former JICA projects, namely project for establishment of Basic training system at NVTI(1997-2004), Third Country and In-country training(2004-2006)and Instructor Training for Vocational Education Training :ITVET(2007-2010) conducted with NVTC. This allowed the project to develop vocational diploma for UVQF Level 4 referring the knowhow of NVTI staff and good relationship with DIT and other partners established in the former project. These factors were applicable in developing upgrading course for mechatronics as well as embarking of outreach TOT which involved sending trainers for re-tooling of instructors from their work spot.

➤ Development of UVQF Level 4

The project collaborated with DIT and NCDC in development of vocational diploma curriculum along with UVQF Level 4 (automobile diagnostic technician, industrial electrical technician). Although it was a new development, NVTC had resourceful staff to initiate the curriculum development process by networking with DIT and NCDC. It is worth to note that some of collaborators in DIT and NCDC were former NVTI staff who had worked in the former projects. This network enabled the project to carry out this development process.

➤ Implementing outreach TOT

It was a new and unique approach for building capacity of instructors in practical skill but also reflected the needs expressed by the instructors who were beneficiaries of the instructors training established in former JICA project. By introducing the outreach TOT, NVTC supported strengthening of 'In-house training' in other institutions, which was aim to support continuous capacity development who completed instructors training at NVTI.

(2) Main streaming private sector support in capacity development of counterparts.

To develop capacity of instructors in VDAE and VDEE, project applied an approach to collaborate with private sector. Instructors had participated in house training at private companies and OJT at workshops. Though these experiences, they gained practical skills and skills needs in world of work. This approach contributed to build close relationship with private sectors and creating more awareness about NVTC and the new diploma program to the partners.

(3) Securing of counterpart budget for efficient implementation of the project.

Securing budget for implementation of NVTC activities was critical for the success of the

project. In order to sustain the results of the project, involving the Governing Council of NVTC in the discussions and bargaining for budget allocation should be at the centre stage.

(4) Collaboration with other development partners

NVTC has been implementing several projects with development partners. During the project period, two other projects (HWK and GIZ) were initiated at the site of NVTC. This co-working environment made it easy to exchange on each activity and share the view on supporting the development of NVTC. This also resulted in joint work for outreach TOT and some other activities.

IV. For the Achievement of Overall Goals after the Project Completion

1. Prospects to achieve Overall Goal

'NVTI becomes a Center of Excellence (CoE) which produces industrial human resource responding to the needs of the private sector.', that is the Overall Goal which aim to achieved in three years after the termination of the Project. The prospects of achievement is **relatively high** if NVTC will continue enhancing the capacity acquired in the project and utilizing experiences gained through project activities.

[indicators]

1. At least 90% of the graduates obtain a job (including self-employment and apprenticeship) or enrolled in higher education in the relevant areas after completion of the diploma courses.

⇒ It is still early to prospect the result of job placement since students of first cycle just finished the diploma program, however, based on highly achieved result of project purpose, 'company's satisfaction on NVTI's diploma trainees' and the quality assurance mechanism put in place during training delivery, it is possible to attain the target value set in this indicator within a period of three years after expiry of the project.

2. The number of companies which participate in upgrading course increased by 30%.

⇒ Based on both results of output 2 and project purpose, the demand and satisfaction of companies on upgrading training is high, but on the other hand capacity development of instructors was not enough and lack of funds for procurement of equipment (Motor and motor drives) to meet the training demands could not allow the target value to be achieved. If these issues are solved within 3 years after the termination of the project, the target value may be attained.

3. Activities involving private sector in training are applied in 60% of the institutions which have been supported by NVTI.

⇒ In the project co-working relationship between NVTC and 5 TIs was strengthened, this collaboration will continue to share the experience and knowledge amongst them.

Through implementation of TVET policy which requires institutions to work collaboratively with private sector, within 3 years' time the target value of this indicator can be achieved.

2. Plan of Operation and Implementation Structure of the Uganda side to achieve Overall Goal

The following operation shall be implemented after the completion of the TVET-LEAD project.

- (1) NVTC will organize more PPP meeting periodically with private sector to improve the diploma program including, program review, training implementation, involvement of more industries in industrial attachment and assessment to be meet the need of industries.
- (2) NVTC will continue improving the quality of delivery of the vocational diploma training by implementing progressive monitoring by both management and students. It is very important to monitor and ensure the time allocation for practical training are offered according to the vocational diploma curriculum.
- (3) Instructors of VDEE and VDAE will improve 4 sets materials particularly on the part of lesson plan with practical training using training materials provided by project support.
- (4) Instructors will organize in house training to improve the delivery of training incorporating the use of training materials for practical skills and textbooks.
- (5) NVTC will establish the employment support unit to promote job matching between private sector and to monitor job placement of diploma students.
- (6) NVTC will implement more public relation for promoting upgrading course in mechatronics.
- (7) NVTC will monitor performance of upgrading training course by capturing data on number of training request, training course implemented and training results.
- (8) Instructors will continue with in house TOT to improve delivery of training by mastering the practical skill to be thorough in the training.
- (9) NVTC will work with other BTVET institutions though collaboration mechanism established to share the knowledge and skills NVTC gained to involve private sector in training.
- (10) NVTC will monitor implementation and progress of plan of operation of project overall goals by following linking the strategic objectives in new strategic plan.
- (11) NVTC should involve more private companies in implementing OJTs so that the new instructors acquire company relevant skills necessary for the vocational diploma course.

2-2 The implementation structures

- (1) MOES will support continuity of NVTI vocational diploma programme and outreach TOT through provision of fund according to the plan.
- (2) MoES will also support 5 TIs by provision of necessary fund to facilitate outreach TOT

together with NVTC and other TIs jointly.

(3) NVTC will maintain PPP structure and continue PPP WG meeting to exchange and to gain support from private sector.

(4) NVTC will monitor percentage of job placement for graduate of diploma periodically.

(5) NVTC will monitor number of companies which participate upgrading training per month including the information of new companies.

(6) NVTC will continue outreach TOT to 5 institutions including support for starting of upgrading training.

3. Recommendations for the Uganda side

(1) Provision of funds from government for implementing diploma program has not been started yet. MoES should provide necessary support to NVTC so as to operate fully as a college. It is a fundamental requirement to ensure effective implementation and continue with the program. MoES should consider provision of opportunity and budget for staff capacity building at NVTC so the human resource gains capacity to carry out the training and management at college level.

(2) MoES should consider the human resource management of NVTC to keep the key instructors who worked together with the Project at NVTC so that they can take charge in ensuring and enhancing the project result through transferring knowledge and technology to other instructors and staff to develop self-propelling capacity of NVTC.

(3) MoES should continue to provide the staff training budget to carry out in house TOT in NVTC so that the skills and knowledge acquired by technical transfer from Japanese experts and training supported by private sector are disseminated to the other instructors.

(4) Furthermore, MoES should ensure disbursement of the budget to enable other BTVET institutions benefit from the outreach TOT of Output 4.

3-2 NVTC

(1) NVTC should build in the self-propelling strategy in new strategic plan and take necessary measure to implement it. In-house management training among Heads of Department should be enhanced so their know-how internally is shared to develop NVTC.

(2) NVTC will discuss with MoES to request JICA for dispatch of JEED Expert to conduct TOT on the usage of the provided equipment for upgrading training in mechatronics which was suspended due to interruption caused by the COVID-19 pandemic. It is worth to note that there is strong demand from private sector for NVTC to widen the course contents so that the technician improve their competence.

(3) NVTC will explore the measure to increase the financial resources through vocational diploma and upgrading training courses so that the staff conducting diploma program and upgrading training who are on the BOG payroll are maintained. Currently those contracts were suspended due to COVID-19 pandemic.

(4) NVTC will ensure to incorporate the operational plan for project overall goals into latest strategic plan. It is also required to develop an implementation schedule including staff assignment and budget utilizing the experience and capacity gained by the activities in output 3.

(5) NVTC will promote a culture of responsibility and commitment in each staff and instructors for them to take roles as members of the leading vocational training institution. The attainment of the target values of indicators is a necessary requirement but not sufficient for NVTC to perform as COE as well as gaining recognition by other stakeholders in society.

If NVTC is to become CEO, it is not only for its training program and facilities but also human resource who can lead others in the TVET development of Uganda by sharing their pride and competence in industrial human resource development.

4. Monitoring Plan from the end of the Project to Ex-post Evaluation

Monitoring plan will be reflected in the new strategic plan.

(If the Project will be continuously monitored by JICA after the completion of the Project, mention the plan of post-monitoring here.)

Annex 1: List of Experts and Project personals

Annex 2: PDM(All versions of PDM)

Annex 3: R/D(internal reference only.)

Annex 4: Monitoring Sheet (internal reference only.)

Annex1. List of Experts and Project personals

LONG TERM EXPERTS

No.	Name	Designation/Title	Period		M/M
			From	To	
1	Saeri Muto	Chief Advisor/Public Private Partnership	06-Apr-2015	04-Jun-2015	2
2	Tsuyoshi TODA	Curriculum Development/Human Resource Development	28-Mar-2015	23-Jan-2016	9.9
3	Iki Ushiro	Project Coordinator/Monitoring	25-Mar-2015	30-Jul-2015	4.2
4	Saeri Muto	Chief Advisor/Public Private Partnership	21-Jul-2015	18-Sep-2015	1.97
5	Saeri Muto	Chief Advisor/Public Private Partnership	28-Oct-2015	18-Dec-2015	1.7
6	Naonobu Fuwa	Project Coordinator/Monitoring	23-Jul-2015	31-Oct-2015	3.3
7	Nabi Oki	Project Coordinator/Monitoring	12-Oct-2015	08-Apr-2018	29.93
8	Saeri Muto	Chief Advisor/Public Private Partnership	28-Feb-2016	26-Mar-2016	0.93
9	Saeri Muto	Chief Advisor/Public Private Partnership	23-May-2016	15-Jul-2016	1.77
10	Saeri Muto	Chief Advisor/Public Private Partnership	04-Sep-2016	15-Oct-2016	1.4
11	Saeri Muto	Chief Advisor/Public Private Partnership	13-Nov-2016	11-Dec-2016	0.97
12	Kazuaki Sugawara	Electricity Expert	25-Sep-2016	24-Sep-2018	24

13	Saeri Muto	Chief Advisor/Public Private Partnership	31-Jan-2017	26-Mar-2017	1.9
14	Saeri Muto	Chief Advisor/Public Private Partnership	04-Jun-2017	23-Jun-2017	0.67
15	Saeri Muto	Chief Advisor/Public Private Partnership	23-Oct-2017	18-Nov-2017	0.90
16	Hiroyuki Hasegawa	Project Coordinator/Monitoring	26-Apr-2018	22-Mar-2021	34.83
17	Saeri Muto	Chief Advisor/Public Private Partnership	08-Mar-2018	24-Mar-2018	0.57
18	Saeri Muto	Chief Advisor/Public Private Partnership	20-May-2018	15-Jun-2018	0.9
19	Saeri Muto	Chief Advisor/Public Private Partnership	03-Sep-2018	06-Oct-2018	1.13
20	Saeri Muto	Chief Advisor/Public Private Partnership	25-Nov-2018	16-Dec-2018	0.73
21	Saeri Muto	Chief Advisor/Public Private Partnership	03-Feb-2019	07-Mar-2019	1.17
22	Saeri Muto	Chief Advisor/Public Private Partnership	11-May-2019	08-Jun-2019	0.97
23	Saeri Muto	Chief Advisor/Public Private Partnership	08-Sep-2019	27-Sep-2019	0.67
24	Saeri Muto	Chief Advisor/Public Private Partnership	01-Dec-2019	22-Dec-2019	0.73
25	Saeri Muto	Chief Advisor/Public Private Partnership	15-Feb-2021	12-Mar-2021	0.87
			Sub_Total M/M		128.10

SHORT TERM EXPERTS

No.	Name	Designation/Title	Period		M/M
			From	To	
1	Etsuo Hashiguchi	Motor Vehicle Expert	06-May-2015	04-Jun-2015	1
2	Etsuo Hashiguchi	Motor Vehicle Expert	01-Nov-2015	30-Nov-2015	1
3	Etsuo Hashiguchi	Motor Vehicle Expert	09-May-2016	12-Jun-2016	1.13
4	Osamu Nakai	Electronics Expert	10-Aug-2015	30-Aug-2015	0.7
5	Akinori Hayakawa	Machining Expert	26-Sep-2015	17-Oct-2015	0.73
6	Etsuo Hashiguchi	Motor Vehicle Expert	14-Nov-2016	21-Dec-2016	1.27
7	Etsuo Hashiguchi	Motor Vehicle Expert	02-Apr-2017	30-Apr-2017	0.97
8	Hironori Matsubara	Motor VehicleWorskshop construction	03-Sep-2017	27-Sep-2017	0.83
9	Hironori Matsubara	Motor VehicleWorskshop construction	26-Nov-2017	03-Dec-2017	0.27
10	Katsunori Masaki	Mechatronics	29-Oct-2017	19-Nov-2017	0.83
11	Hironori Matsubara	Motor VehicleWorskshop construction	13-May-2018	21-May-2018	0.3
12	Toru Takagi	Motor VehicleWorskshop construction	14-Oct-2018	20-Oct-2018	0.23
13	Toru Takagi	Motor VehicleWorskshop construction	14-Jan-2019	19-Jan-2019	0.2

14	Toru Takagi	Motor Vehicle Workshop construction	31-Mar-2019	08-Apr-2019	0.3
15	Kazuaki Sugawara	Electricity Expert	08-Jul-2019	27-Jul-2019	0.67
16	Kazuaki Sugawara	Electricity Expert	09-Feb-2020	08-Mar-2020	1
			Sub_Total M/M		11.43

PROJECT PERSONNEL

1	Ssemanda Hillary	Interpreter	11-Aug-2015	17-Oct-2015	2.23
2	Mildred Nabagesera	Project Office Administrator	22-Jun-2016	22-Jul-2016	1.03
3	Mildred Nabagesera	Project Assistant	13-Sep-2016	24-Mar-2021	54.4
			Sub_Total M/M		57.67

List of NVTC Counterpart and Staff

OUTPUT 1

No.	Name	Designation/Title	Status
1	Gidaga Kitts Morris	Instructor Automotive	On - Service
2	Kabengonzi Ernest Everest	Instructor Automotive	Transferred 2020
3	Sseguya Joseph Ssimbwa	Instructor Automotive	On - Service

4	Kibirige Joseph Njuki	Instructor Automotive	Transferred 2017
5	Lule Donald	Instructor Automotive	On - Service
6	Madira Alex	Instructor Automotive	Transferred 2020
7	Obalasa Richard	Instructor Automotive	On - Service
8	Otabong Moses	Instructor Automotive	On - Service
9	Sebanakita Wilson Kaaya	Instructor Automotive	On - Service (BOG)
10	Ssekitoleko Joseph	Instructor Automotive	On - Service (BOG)
11	Nakato Rose	Instructor Automotive	Transferred 2018
12	Kiyimba Mohammed	Instructor Automotive	Retired 2020
13	Kasolo Enock	Instructor Automotive	On - Service (BOG)
14	Aretor Zerubabel	Instructor Automotive	On - Service
15	Erima Goeffrey	Instructor Automotive	On - Service
16	Opio John Richard	HOD. Principal Instructor Electricity	Retired 2019
17	Wandera Steven Nasonga	Instructor Electricity	On - Service (BOG)

18	Wanyama Tom	Instructor Electricity	On - Service
19	Naigembe Mary	Instructor Electricity	Transferred 2020
20	Lwanga Shakira	Instructor Electricity	On - Service (BOG)
21	Ssemakula Abdu	Instructor Electricity	On - Service (BOG)
22	Anyango Esther	Instructor Electricity	Transferred 2020
23	Kajjaku Wilson	Instructor Electricity	On - Service (BOG)
24	Lubega Gerald	Instructor Electricity	On - Service (BOG)
25	Mutungu Godfrey	Instructor Electricity	On - Service
26	Kirunda William	Instructor Life Skills	On - Service
27	Kiggundu John Baptist	Instructor Electricity	On - Service
28	Muwhezi Nicholas	Instructor Electricity	On - Service
29	Mpanga Alexander	Instructor Electricity	On - Service
30	Ezra Nziza Sembagare	Instructor ICT	On - Service (BOG)
31	Michael Rujumba	Diploma Program Coordinator 2018 - 2019	On - Service

32	Etinot Betty	Diploma Program Coordinator 2019 - 2021	On - Service (BOG)
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OUTPUT 2

No.	Name	Designation/Title	Status
1	Ssegujja Robert	Head of Mechatronics	On - Service
2	Bamuruli Sunday	Instructor Mechatronics	On - Service (BOG)
3	Ssemakula Abdu	Instructor Mechatronics	On - Service (BOG)
4	Kasule Jjinga Francis	Instructor Mechatronics	On - Service
5	Lwanga Shakira	Instructor Mechatronics	On - Service (BOG)
6	Apire William	Instructor Mechatronics	On - Service
7	Nziza Ezra	Instructor Mechatronics	On - Service (BOG)
8	Abiar Jacob	Instructor Mechatronics	On - Service
9	Betere Job Isaac	Instructor Mechatronics	On - Service (BOG)
10	Etinot Betty	Instructor Mechatronics	On - Service (BOG)
11	Nassali Fatumah	Instructor Mechatronics	Resigned 2019

12	Lubega Gerald	Instructor Mechatronics	On - Service (BOG)
13	Kajjaku Wilson	Instructor Mechatronics	On - Service (BOG)
14	Naigembe Mary	Instructor Mechatronics	Transferred 2020

OUTPUT 3

No.	Name	Designation/Title	Status
1	Muwanga Godfrey Fred	Principal NVTC	On- Service
2	Omoo Francis	D/P Administration	Transferred 2020
3	Omita Olma Tofre	D/P Administration	On - Service
4	Mayanja Fred Ssenviri	D/P Training	On - Service
5	Niwamanya Gilbert	HOD. Plumbing & Staff management	On - Service
6	Olwa Tom	Coordinator Industrial Training	On - Service
7	Sseggujja Robert	Health & Safety/Inventory	On - Service

OUTPUT 4

No.	Name	Designation/Title	Status
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1	Kyahurwa Patrick	HOD. Instructor & Manager Training	On - Service
2	Otabong Moses	Instructor & Manager Trainer	On - Service
3	Waiga Isaac Discoro	Instructor & Manager Trainer	On - Service
4	Nakazibwe Saudah	Instructor & Manager Trainer	On - Service
5	Muhangi Gordon	Instructor & Manager Trainer	On - Service
6	Okila James	Instructor Building	On - Service (BOG)
7	Nyanja Charles	Instructor Building	On - Service (BOG)
8	Ochwo John Patrick	Instructor Plumbing	Transferred in 2020
9	Bwambale Wesley	Instructor Plumbing	On - Service
10	Niwamanya Gilbert	Instructor Plumbing	On - Service
11	Ssekitoleko Joseph	Instructor Motor Vehicle	On - Service (BOG)
12	Lule Donald	Instructor Motor Vehicle	On - Service
13	Madira Alex	Instructor Auto Electrical	Transferred 2020
14	Kibirige Joseph Njuki	Instructor Motor Vehicle	Transferred 2017

15	Bamuruli Sunday	Instructor Machining	On - Service (BOG)
16	Sseguuja Robert	HOD Machining	On - Service
17	Wanyama Tom	Instructor Electricity	On - Service
18	Ssemakula Abdu	Instructor Electricity	On - Service (BOG)
19	Akumba Paul	Instructor Welding	On - Service (BOG)
20	Mirembe Esther	Instructor Welding	On - Service
21	Nasali Fatumah	Instructor Electronics/ICT	Resigned 2019
22	Okwir Thomas	Instructor Woodworking	On - Service (BOG)
23	Nyanzi Richard	Instructor Woodworking	On - Service
24	Nziza Ezra	Instructor Electronics/ICT	On - Service (BOG)

PROJECT OFFICE COUNTERPART STAFF

1	Okello Alfred Jasper	National coordinator 2015	Transferred 2016
2	Asimwe Patrick Sunday	National coordinator 2016 - 2021	On - Service
3	Etoori Samuel	Coordinator - Project Baseline Survey 2015	On - Service
4	Busingye Valentine	Secretary 2015 - 2021	On - Service

NAKAWA VTC ADMINISTRATIVE STAFF

1	Muwanga Godfrey Fred	Principal /Project manager NVTC	On - Service
2	Omoo Francis	D/P Administration	Transferred 2020
3	Omitta Olam Tefro	D/P Administration	On - Service
4	Mubiru David Luyima	D/P Training	Transferred 2016
5	Mayanja Fred Ssenviri	D/P Training	On - Service

List of Equipment and Textbooks provided by JICA

Purchased List of Equipment for Automobile Diploma (Dec.2016- Jan.2017)

NO.	ITEM	MANUFACTURER	QTY
1-1	Cutaway Model(720),4 cycle,single cylinder petrol engine	Megachem	1
1-2	Cutaway Model(E1202),2 cycle,single cylinder petrol engine	Megachem	1
1-3	Cutaway Model(700),4 cycle,single cylinder Diesel engine	Megachem	1
1-4	Cutaway Model(120),In-Line fuel injection pump for Diesel engine	Megachem	1
1-5	Cutaway Model(150),Common Rail System(Diesel engine)	Megachem	1
1-6	Cutaway Model(830),Manual Transmission	Megachem	1
1-7	Cutaway Model(114),Automatic Transmission	Megachem	1
1-8	Cutaway Model(360),Turbo Charge	Megachem	1
1-9	Cutaway Model(1190),Differential	Megachem	1
1-10	Cutaway Model(650),Ball Nut Gear Box Type Power steering System	Megachem	1

1-11	Cutaway Model(660),Rack and Pinion Type Power steering System	Megachem	1
1-12	Training Device(2130) for ABS	Megachem	1
1-13	Training Apparatus(538) for Electronically controlled Petrol Injection	Megachem	1
1-14	Electronic Circuit Board(YD-10)for Training	Megachem	1
1-15	Training Apparatus(ALC1.1+1.6) for CAN Communication System	Megachem	1
1-17	Training Apparatus(SO3230) for Sensors used in the Engine Control System	Megachem	1
1-18	Demonstration Unit(1011) for static and Dynamic wheel Balance	Megachem	1
1-19	Engine Trainer,Petrol Engine Unit (MEG511)	Megachem	1
1-20	Engine Trainer,Diesel Engine Unit (MEG701)	Megachem	1
1-21	OBD-II Scan Tool (MODIS ULTRA Version.16.2,EEMS328R12J).Optional Accessory:,,	Snap-on	1
	OBD-I Adapter Kit for Vehicle (EAK0301B08A) 1set	Snap-on	1
	Low Ampere Probe(EETA308D)	Snap-on	1
	Back Probe Adapter(MTTL430)	Snap-on	1
	Ignition scope lead kit(EAK0294B09A)	Snap-on	1
	Power plug changer.	Snap-on	1
1-22	Exhaust Gas Analyser (MEXA-584L).Optional Accessory:,,	Horiba	1
	No sensor,	Horiba	1
	Filter element set	Horiba	1
	Power plug changer	Horiba	1
2-1	Two(2)Post Car lift(OSP3500N)	Sugiyasu	1
2-2	Engine Lifter(M2211S-1000KG)	Shiro	1
2-3	Telescopic Transmission Jack (ML-45R)	Nagasaki Jack	1
2-4	Disc Brakes Lathe (ADL-01V).Optional Accessory:	Star	1
	Modifying Charge(Including BF plug 1set)	Star	1
	Stand(ADL-K)	Star	1
	Spacer(J328-217)	Star	1
	Taper Support(J328-218)	Star	1
	Carbide tool holder (ADL-01-BTHL)	Star	2

	Carbide tool holder (ADL-01-BTHR)	Star	2
	Bite chip(ADL-01-TP10S)10Pcs/set	Star	4
2-5	Air Hose Reel (ARX-10- gray)	Saga	1
2-6	Chain Block (CB030)	Kito	1
2-7	Pneumatic Grease Gun (SKR-55).Optional Accessory:	Yamada	1
	Coupler for 1/4" hose (20SH)	Nitto Koki	1
	Hose Clamp(MH10-16)	Monotarou	1
2-8	Oil Drain Tank(OD-700PG-B)	Yamada	1
3-1	Mechanic Tool set (CU-601)	Banzal	2
3-2	Letter punch set (EA591HN-5)	Esco	1
3-3	Valve seal Ring Pliers and Installer set(JTC1717)	Laguna	1
3-4	Lazy Tong Riveter(EA527KC)	Esco	2
3-5	Pulley Holding Lever(CP-93B)	Hasco	1
3-6	Socket Wrench Set-1/4"drive(2250M)	Koken	1
3-7	Deep Type Socket Wrench set-3/8"drive(3277)	Yamashita	1
3-8	Torx Set-1/2"drive,E&T (RS4425/7 & RS4025/9-L60)	Yamashita	1
3-9	Universal T-wrench(UTH-4)	Flash tool	2
3-10	Filter Wrench(FW-60)	Koto sangyo	2
3-11	Wire strippers and Cutter (PT9100)	Fujix	2
4-1	Puller set for Motor Vehicle(HP-3000)	Nippei Kiki	1
4-2	Tie-Rod End (Ball Joint)Puller (TR-25)	Nippei Kiki	1
4-3	Tap and Die set-metric(M-320)	Light-seiki	1
4-4	Tap and Die set-Imperial(OK7)	Light-seiki	1
4-5	Vacuum Glass Lifter(EA950DC)	Esco	4
4-6	Fiberscope(QV-MTC55702).	Satoshoji	1
	Optional Accessory:Operation Manual	Satoshoji	1
4-7	Digital Multi-Tester (BZ-200A)	Banzal	10
4-8	Infrared Laser Thermometer (IR-308)	Custom	1
4-9	Stethoscope (DX)	Excel	2
4-10	Injection Nozzel Tester for Diesel Engine(DI-50B).Optional Accessories:	Toyo tech	1
	Adapter pipe No.2	Toyo tech	1
	Adapter pipe No.3	Toyo tech	1
	Adapter pipe No.5	Toyo tech	1
	Adapter pipe No.6	Toyo tech	1

4-11	Pipe Flaring Tool set for single flaring (T-200)	Banzal	1
4-12	Pipe Flaring Tool set for double flaring (T-200)	Nippei Kiki	1
5-1	Digital Dial Indicators (EA725MB-30)	Esco	1
5-2	Digital Outside Micrometer (MDC-25MX)	Mitsutoyo	1
5-3	Digital Vernier Caliper (CD67-S15PS)	Mitsutoyo	1
5-4	Digital,3Point Inside Micrometers (SBM-30CX)	Mitsutoyo	1
6-1	Electric Soldering Iron-60W (KS-60R 240V BS)	Talyo electric	10
6-2	Electric Soldering Iron-100W (KS-100R 240V BS)	Talyo electric	5
6-3	Electric Soldering Iron-100W (HP-200 240V BS)	Talyo electric	2
6-4	Booster Cable with clamps(BC-385)	Daiji	2
	Car Lift (RAV212NL)	Ravaglioli	1
	Optional Accessory: Cross beam(S260A5)2Pcs	Ravaglioli	2
	Crass beam(S260A5)	Ravaglioli	1
	Crass beam(S260A5)	Ravaglioli	1
7-2	Tyre Changer (TC-235)	Onodani	1
7-3	Wheel Dolly(NWD-500G)	Nagasaki Jack	1

Purchased List of Equipment for Automobile Diploma (Dec.2016- Jan.2017)

S/N	ITEM	QTY	UNIT
1	Petrol vehicle-EFI, DIS, VVT	1	complete
2	Diesel vehicle-Turbo, intercooler	1	complete
3	Drawing boards	20	pcs
4	Grease guns	5	pcs
5	Oil drain pans	2	pcs
6	oil cans	5	pcs
7	Greasing gun	5	pcs
8	Battery	5	pcs
9	Maintenance free	2	pcs
10	Lead acid Battery	2	pcs
11	Hydrometers	5	pcs
12	High rate discharge tester	5	pcs
13	Battery- charger	3	pcs
14	Heavy duty Jump cables	2	pairs
15	Multimeters -digital	10	pcs

16	Final drive assembly	5	pcs
17	Shock absorbers	5	pcs
18	Independent suspension assembly	2	pcs
19	macpherson	5	pairs
20	Telescopic tube	5	pcs
21	Wheel balancer machine	1	pcs
22	Tyre removal machine	1	pcs
23	Tyre levers	5	pcs
24	Steering gear boxes		
25	Rack and Pinion	5	pcs
26	Worm and Wheel	3	pcs
27	Recirculating ball	3	pcs
28	Computerised wheel aligning machine	1	pcs
29	Bench Vices	20	pcs
30	Drilling machines (pillar)	3	pcs
31	Grinding machine	3	pcs
32	Anvil	2	pcs
33	Air condition gauges	2	pcs
34	Vacuum pump recovery machine	2	pcs
35	A/C leak detect machine	5	pcs
36	A/C pump	1	pcs
37	A/C Drier	1	pcs
38	A/C Condenser	1	pcs
39	A/C Evaporator	1	pcs
40	Expansion Valve and blower	1	pcs
41	Oscilloscope	4	pcs
42	Timing Lights (Stroboscope)	3	pcs
43	Spark plug testing machine	2	pcs
44	Scan tool	1	pcs
45	Injector pump Assembly (DPA)	5	pcs
46	Callibration and phasing machine	1	pcs
47	Injector pump Assembly (In line)	5	pcs
48	injector testing machine	2	pcs
49	Engine analyser	1	pcs
50	Brake bleeding machine	1	pcs

51	ABS modulator assembly	5	pcs
52	Torque converters	5	pcs
53	Automatic transmission FF	3	pcs
54	Hydraulic gauges	5	pcs
55	Automatic Transmission FR	3	pcs
56	Electronic hydraulic press	1	pcs
57	Head light testing machine	1	pcs
58	Air compressor	1	pcs
59	Cargo Truck (Second hand)	1	Pcs

List of Mechatronics equipment delivered from Japan (Dec 2016-Jan 2017)

S/N	ITEM	MODEL	MANUFACTURER	QTY
1-1	Electric Wire.	UL1015-16AWG- 305	Fujikura	30
	Optional Accessories: Container	BL43C	Irisohyama	2
1-2	Electric Wire.	UL1015-14AWG- 305	Fujikura	2
1-3	Non -insulated terminals	1.25Y-3	Nichifu	50
1-4	Non -insulated terminals	2Y-4M	Nichifu	10
1-5	Wire Stripper	P-968	Hozan	20
1-6	Crimping Tool	P-732	Hozan	20
1-7	Tool kit.	S-35-230	Hozan	20
	Optional Accessories: BF Plug Adapter Container	BL43C	Irisohyama	20 1
1-8	Digital Multimeter.	DT4225	Hioki	15
	Optional		Hioki	15
	Accessories: Operation manual(English) Container	BL43C	Irisohyama	1
2-1	PLC Control Unit.	BSK-500PCIII E	Bynas	12
	Optional Accessories:			
	Operation manual(English)	BL43C	Mitsubishi Electric	12
	Operation manual(Japanese). Container		Mitsubishi Electric Irisohyama	12 12

2-2	PLC.	PLCFX3G-14MR/ES	Mitsubishi Electric	18
	Optional Accessories: Operation manual(English)	BL43C	Mitsubishi Electric	18
	Operation manual(Japanese).		Mitsubishi Electric	18
	Container		Irisohyama	2
2-3	PLC Support Software	GX Works3	Mitsubishi Electric	1
2-4	Communication cable.	KU-AMB530	Sanwa Supply	12
	Optional Accessories: Container	BL43C	Irisohyama	1
2-5	Combination Analog Input/output Adapter.	FX3G-14MR/ES	Mitsubishi Electric	12
	Optional Accessories: Container	BL43C	Irisohyama	1
2-6	Special Adapter.	FX3G-CNV-ADP	Mitsubishi Electric	12
	Optional Accessories: Container	BL43C	Irisohyama	1
2-7	Touch Panel operating Unit.	BSK-Q/GOT_E	Bynas	12
	Optional Accessories:			
	Operation Manual(English) Operation Manual(Japanese)		Mitsubishi Electric Mitsubishi Electric	12 12
2-8	GOT Drawing Software.	GT Works	Mitsubishi Electric	1
	Optional Accessories:			
	Operation Manual(English) Operation Manual(Japanese)		Mitsubishi Electric Mitsubishi Electric	15 15
2-9	Communication cable.	KU-AMB530	Sanwa Supply	12
2-10	Conversion Adapter	USB-RSAQ6	I-O Data	12
2-11	FA Load Unit.	BSK-300FA/S_E	Bynas	6
	Optional Accessories: Operational Manual(English)		Bynas	6
3-1	Inverter.		Mitsubishi Electric	12
	Optional Accessories:			
	Operation basic manual (English)		Mitsubishi Electric	12
	Operational Advanced manual (Japanese).		Mitsubishi Electric	12
	Operational Advanced manual		Mitsubishi Electric	12

	(English): Container		Irisohyama	2
3-2	Motor for inverter: Optional Accessories: Operation Manual(English)	SF-JR 4P 0.4K	Mitsubishi Electric Mitsubishi Electric	12 12
3-3	AC Servo Training Equipment. Optional Accessories: Operation manual (English) Operation Manual(Japanese): Container	AC-X1_E BL43C	Bynas Mitsubishi Electric Mitsubishi Electric Irisohyama	6 6 6 6
4-1	Diffuse-reflective sensor with Built in Amplifier. Optional Accessories: Container	E3Z-D61 2M BL43C	Omron Irisohyama	15 2
4-2	Through-beam Sensor with Built-in Amplifier	E3Z-T61 2M	Omron	15
4-3	Laser Sensor with Built in Amplifier	ZX1-D300A61 2M	Omron	6
4-4	Ultrasonic Sensor	E4E2-TS50C1 2M	Omron	6
4-5	Power Supply	S8VS-06024	Omron	12
4-6	Temperature Sensor IC	DS18S20	Microtechnica	20
4-8	CMOS Timer	TLC555IN	Texas Instruments	50
4-9	7 Segment Display	C-552SRD	Akizuki Denshi Tsusho	50
4-10	LCD Character Display Module	SC1602BS-B	Akizuki Denshi Tsusho	30
4-11	Ten Digit Multi-colours Display	OSX10201-GYR1	Akizuki Denshi Tsusho	50
5-1	One-board Microcomputer: Optional Accessories: Converter cable: Operational manual(Japanese): Container	TK400SH USB-CVRS9 BL43C	Bynas Sanwa Supply Tokyo Denki University Press Irisohyama	12 12 12 1
5-2	PIC Development Kit	PICDEV-3503	Microtechnica	20

5-3	AC Adapter:	ACA-9	Microtechnica	20
	Optional Accessories:8F Plug Adapter			20
5-4	Bread Board:	CT-311S	Sunhayato	20
	Optional Accessories:Training Kit for CT-311S.	CT-311S-P01	Sunhayato	20
	ACAdapter.	AD-S525A	Sunhayato	20
	BF Plug Adapter:	BL43C	Irishyama	20
	Container			2
5-5	Bread Board:	SRH-53	Sunhayato	30
	Optional Accessories:Jump Wire Kit:	SKS-390	Sunhayato	30
	Container	BL43C	Irishyama	2

List of Mechatronics Equipment delivered from Japan (Jan 2017)

NO.	ITEM	MODEL	MANUFACTURER	QTY
1	Manifold	110M4F	Koganei	13
2	Air piloted valve(single pilot)	STN3,4:110-4A-J42	Koganei	29
3	Air piloted valve(double pilot)	STN2,4:110-4A2-J42	Koganei	29
4	TAC valve 3-port	3P	Koganei	39
5	Push button	ABN100K	Koganei	39
6	Volume tank	V15	Koganei	12
7	Bracket	8-70	Koganei	12
8	Manifold	110M7F	Koganei	13
9	5-2 single SV	STN6,7:110-4E1-J42-83-PSL-DC24V	Koganei	26
10	5-2 double SV	STN3,5:110-4E2-J42-83-PSL-DC24V	Koganei	39
11	5-3 exhaust SV	STN2,7:113-4E2-13-J42-83-PSL-DC24V	Koganei	13
12	5-3 closed SV	STN1:113-4E2-J42-83-PSL-DC24V	Koganei	13
13	Plate	LBC-320S	Irishyama	24

14	Cylinder	PBDAS16x75-M-1-ZC253-A-3	Koganei	12
15	Cylinder	PBDAS16x50-M-1-ZC253-A-2	Koganei	12
16	Air hand	NHBDS-8-ZE1552	Koganei	12
17	Micro Valve	KMC	Koganei	52
18	Speed controller	SSU4M	Koganei	48
19	Pressure guage	G1-40	Koganei	24
20	Throttle valve	TVU4M	Koganei	36
21	Check valve	CVU4	Koganei	36
22	Quick exhaust valve	EQY-4	Pisco	36
23	Regulator	RVUM4-4	Pisco	36
24	DIN rail mounting plate	DIN-P70	Misumi	24
25	Plastic ball Knobs	PB20X5B	Misumi	24
26	Terminal block	RTK-10M-21P	Toyogiken	26
27	Plate	LBC-430S	Irisohyama	12
28	Container.Ltd	B-32,C-45	Irisohyama	12
29	Quick fittings mini elbow	TL4-M3M	Koganei	3
30	Quick fittings mini elbow	TL4-M5M	Koganei	19
31	Quick fittings mini elbow	TL4-01M	Koganei	11
32	Quick fittings straight	ATS4-M50	Koganei	1
33	Quick fittings straight	TSH4-M5M	Koganei	18
34	Quick fittings mini tee	TT4-M5M	Koganei	7
35	Quick fittings plug	UP8	Koganei	4
36	Quick fittings plug	UP4	Koganei	40
37	Rc1/8M-8 straight joint	ATS8-01	Koganei	3
38	Muffler	KM-11	Koganei	5
39	FRL combinations	C150-02	Koganei	2
40	R1/4-R1/4 straight joint	N-2M-2M	Chiyoda Tsusho	2
41	R1/4-8 straight joint	ATS8-02	Koganei	1
42	Hand valve	FVU8-8	Koganei	14
43	Different diameter triple	UED8-4	Koganei	3

44	Different diameter union	USD6-4M	Koganei	2
45	Urethane tube	U4-B-100	Koganei	2
46	Urethane tube	U6-B-20	Koganei	1
47	Urethane tube	U8-B-100	Koganei	1
48	Union straight	US8	Koganei	2
49	Union straight	US4M	Koganei	5
50	Union elbow	UL8	Koganei	1
51	Union elbow	UL4M	Koganei	10
52	Union tee	UT8	Koganei	3
53	Union Y	UY4M	Koganei	10
54	Air compressor	0.2LE-8SB	Hatachi industrial equipment system	2
	Power supply transformer	SE-1000	Sugano electric laboratory	2
55	Transformer	PAL-1500P	Swallow electric	1
56	Conversion plug	AP-3	Swallow electric	1
57	Air pressure training kit	SPK-0603W	Koganei	1
58	Electric training kit	K96-CS3	Omron	12
	Power supply transformer	PAL-350I	Swallow electric	12
59	Mini power relay	MY4N-DC24	Omron	52
60	SCM435 Extra low head bolt	M3-5	Bossard	2
61	SCM435 Extra low head bolt	M3-8	Bossard	2
62	SCM435 Extra low head bolt	M3-12	Bossard	1
63	SCM435 Extra low head bolt	M4-6	Bossard	1
64	SCM435 Extra low head bolt	M4-10	Bossard	2
65	SCM435 Extra low head bolt	M4-16	Bossard	1
66	SCM435 Extra low head bolt	M5-8	Bossard	2
67	SCM435 Extra low head bolt	M5-12	Bossard	1
68	SCM435 Extra low head bolt	M5-16	Bossard	1
69	M3 Nut	BOX-LBNR3	Misumi	1
70	M4 Nut	BOX-LBNR3	Misumi	1
71	M5 Nut	BOX-LBNR5	Misumi	1

72	M3 Washer	BOX-PWF3	Misumi	1
73	M4 Washer	BOX-PWF4	Misumi	1
74	M5 Washer	BOX-PWF5	Misumi	1
75	KIV electrical wire	VAKIV-0.5-BE-200	Misumi	3
76	KIV electrical wire	VAKIV-0.5-BK-200	Misumi	1
77	KIV electrical wire	VAKIV-0.5-R-200	Misumi	1
78	Rubber foot	C-30-RK-20-EP-UL-Ivory	Takigen	220
79	Hexagonal ball wrench	PK-028	Misumi	20
80	Straight drill set	D25-S	Ishihashi	5
81	M3 Tap set	M3x0.5#1,#2,#3	Hayasaka MFG	5
82	M4 Tap set	M4x0.7#1,#2,#3	Hayasaka MFG	5
83	M5 Tap set	M5x0.8#1,2,#3	Hayasaka MFG	5
84	M6 Tap set	M6x1#1,#2,#3	Hayasaka MFG	5
85	M7 Tap set	M8x1.25#1,#2,#3	Hayasaka MFG	5
86	M10 Tap set	M10x1.5#1,#2,#3	Hayasaka MFG	5
87	M12 Tap set	M12x1.75#1,#2,#3	Hayasaka MFG	3
88	M16 Tap set	M16x2#1#1,2,#3	Hayasaka MFG	3
89	M20 Tap set	M20x2.5#1,#2,#3	Hayasaka MFG	3
90	M3 Die	M3x 0.5 \varnothing 25	OSG	5
91	M4 Die	M4x 0.7 \varnothing 25	OSG	5
92	M5 Die	M5x 0.8 \varnothing 25	OSG	5
93	M6 Die	M6x 1 \varnothing 25	OSG	5
94	M8 Die	M8x 1.25 \varnothing 25	OSG	5
95	M10 Die	M10x 1.5 \varnothing 25	OSG	5
96	M12 Die	M12x 1.75 \varnothing 38	OSG	3
97	M16 Die	M16x 2 \varnothing 38	OSG	3
98	M20 Die	M20x 2.5 \varnothing 50	OSG	3
99	Step drill for hexagon socket head cap screw	SRMM3	Fukuda seiko	5
100	Step drill for hexagon socket head cap screw	SRMM4	Fukuda seiko	5

101	Step drill for hexagon socket head cap screw	SRMM5	Fukuda seiko	5
102	Step drill for hexagon socket head cap screw	SRMM6	Fukuda seiko	5
103	End mill ϕ 6	WXL-3D-DE-6	OSG	5
104	End mill ϕ 8	WXL-3D-DE-8	OSG	5
105	End mill ϕ 10	WXL-3D-DE-10	OSG	5
106	End mill ϕ 16	WXL-3D-DE-16	OSG	5
107	End mill ϕ 20	WXL-3D-DE-20	OSG	5
108	Electric drill	D-1300VR	Ryobi	2
	Power supply transformer	WT-15EJ(NTI-119)	Kashimura	2
109	Buckle container	BL-43-C	Irisohyama	3

List of Mechatronics equipment delivered from Japan (June 2017)

No.	Item	Model	Qty
1	Cylinder	PBDAS10X75-A-1A-ZC253A3	12
2	Cylinder	PBDAS10X50-A-ZC253A2	12
3	Movement Actuator	RAT5-180-SS2-ZE155A2	12
4	Vacuum Pad	KPHS-10-N	12
5	Ejector	ME03-E1-DC24V	12
6	Pressure sensor	GS610	12
7	Speed Controller	SC4-M5-MA	72
8	Terminal Block	RTK-10M-30P	12
9	Short bar	BB7.0-6	70
10	Aluminium plate	PNLNN-60-60-5	60pcs
11	Aluminium plate	PNLNN-120-60-5	60pcs
12	Aluminium Angle	LAAR5-A40-B20-60	60
13	Aluminium Angle	LAAR5-A65-B30-L35	60
14	Shaft	PSFAN6-12-F10-B6-P4	24
15	Oilless Bush	MDZB6-5	120
16	Oilless Bush	MDZB6-8	120
17	Shaft	PSFCJ20-300	12

18	Shaft Holder	ATHR20-MB	12
19	Shaft Holder	SHA2025	12
20	Aluminum plate	PNLNN-80-70-5	12
21	Permeable photoelectric sensor	EE-SPW321	24
22	Reflective Photoelectric sensor	EE-SPY412	24
23	Connector with cord	EE-1006-1M	24
24	Close Sensor	E2E-X10ME1-2M	24
25	Mounting material	Y92E-B18	24
26	Ejector	VUH07-44A	12
27	Work(Resin white)	RDJJKS20-20	36
28	Work(Resin Black)	RDJKS20-20	36
29	Work(Metal Black	RDOK20-20	72
30	Input/Output Extension Unit	FX2N-32ER	12
	Plug Adapter	BF(NTI-65)	12
31	Additional Extension Cable	FX0N-30EC	12
32	Board	LBC-430S	12
33	Hexagonal button bolt with a hole	SHBTAN-ST-M4-40	1
34	Hexagonal button bolt with a hole	CSHBTAN -ST-M4-35	1
35	Hexagonal bolt with a hole	CSH-ST-M3-35	100
36	Container	B-32,C-45 Clear	12

Purchased List of Equipment for Diploma Electricity (Aug.2017- Jan.2018)

Item	Qty	Purpose	Purchased Date
Cabinet	5	Equipment store	1 st Aug. 2017
Laptop PC	6	For Instructors	1 st Aug. 2017
Video Camera	1	ITC Class	1 st Aug. 2017
Digital Camera	1	ITC Class	1 st Aug. 2017
A-3 printer	1	Engineering Drawing	3 rd Aug. 2017
Projector	1	Class use	3 rd Aug. 2017
Wired Panel	20	Exam/Class	13 th Sep. 2017
Text Books	16	Teaching Material	15 th Jan. 2018
Cabinet	5	Store Equipment	22 nd Jan. 2018
Cabinet (half glass)	5	Store Equipment	22 nd Jan. 2018

Projector Screen	2	Class use	27 th Jan. 2018
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Purchased List of Equipment for Diploma Electricity (Feb. 2018-Mar. 2018)

Item	Qty	Purpose	Purchased Date
TV SET	1	ICT	14 th Feb. 2018
DVD Player	1	ICT	14 th Feb. 2018
Scanner	1	ICT	14 th Feb. 2018
Antivirus Software	2	ICT	14 th Feb. 2018
Cabinet (Glass)	5	Equipment store	22 nd Feb. 2018
A-3 printer rack	1	ICT	2 nd Mar. 2018
Helmets	20	Safety and Metal Processing	3 rd Mar. 2018
Large Compass Set	2	Applied Mathematics	3 rd Mar. 2018
Allen Key	2	Motor Rewinding	3 rd Mar. 2018
Engineering Vice	3	Safety and Metal Processing	5 th Mar. 2018
Hand Drill	2	Electrical Engineering Practice III	7 th Mar. 2018
Crimpling Tool	2	Electrical Engineering Practice	7 th Mar. 2018
Gear Puller (big)	1	Motor Rewinding	7 th Mar. 2018
Gear Puller (Small)	1	Motor Rewinding	7 th Mar. 2018
Wire gauge	20	Motor Rewinding	7 th Mar. 2018
Grinding Machines	2	Safety and Metal Processing	7 th Mar. 2018
Taps and Dies	2	Electrical Engineering Practice	7 th Mar. 2018
Ladder	1	Instrumentation	7 th Mar. 2018
Consumer's unit	5	Electrical Engineering Practice	10 th Mar. 2018
Cable	6	Electrical Engineering Practice	12 th Mar. 2018
PVC Cable	40	Electrical Engineering Practice	12 th Mar. 2018
Projector	1	Industrial Organization and Management	13 th Mar. 2018
Soldering Wire	20	Safety and Metal Processing	13 th Mar. 2018
Rewinding Wire	5	Motor Rewinding	13 th Mar. 2018
Insulation paper leather	1	Motor Rewinding	13 th Mar. 2018
Insulation paper plastic	1	Motor Rewinding	13 th Mar. 2018
Binding tape (cord)	20	Electrical Engineering Practice	13 th Mar. 2018
Drill set for Hammer Drill	2	Electrical Engineering Practice III	15 th Mar. 2018

White board	5	Teaching	15 th Mar. 2018
Rubber mallet	20	Motor Rewinding	15 th Mar. 2018
Circlip pliers	20	Motor Rewinding	15 th Mar. 2018
Sleeves for copper wire	1	Motor Rewinding	15 th Mar. 2018
Capacitors	10	Industrial electrical machines	15 th Mar. 2018
DC to AC Invertor	4	Machine Control Practice	15 th Mar. 2018
Blades for Grinding Machines	1	Safety and Metal Processing	15 th Mar. 2018
Cooker	5	Electrical Engineering Practice III	17 th Mar. 2018
Air Compressor (25L)	1	Electrical Engineering Practice	17 th Mar. 2018
Air Compressor (50L)	1	Electrical Engineering Practice	17 th Mar. 2018
Welding mask	20	Safety and Metal Processing	19 th Mar. 2018
Grease gun	2	Motor Rewinding	19 th Mar. 2018
Water heater	5	Electrical Engineering Practice III	19 th Mar. 2018
Generator single phase	1	Machine Control Practice	19 th Mar. 2018
Induction Motor 3 phase	2	Machine Control Practice	19 th Mar. 2018
Induction Motor single phase	2	Machine Control Practice	19 th Mar. 2018
Hacksaws	5	Safety and Metal Processing	19 th Mar. 2018
Solar Batteries	4	Renewable Energy	20 th Mar. 2018
Solar PV modules	4	Renewable Energy	20 th Mar. 2018
Container (30L)	3	Storing	20 th Mar. 2018
Container (40L)	6	Storing	20 th Mar. 2018
Container (80L)	4	Storing	20 th Mar. 2018

Purchased List of Equipment for Diploma Electricity (Jan. 2019)

Item	Qty	Module	Purchased Date
Scientific Calculator	30	Applied Mathematics	31, Jan. 2019
French curve (20 cm)	21	Drawing	31, Jan. 2019
Sprit level (100 cm)	10	Safety and Metal Processing	30, Jan. 2019
Sprit level (60 cm)	10	Safety and Metal Processing	30, Jan. 2019
Knife	21	Electrical Engineering Practice I	30, Jan. 2019

Earth electrode (A Class)	1	Electrical Engineering Practice I	16, Jan. 2019
Earth electrode (B Class)	1	Electrical Engineering Practice I	16, Jan. 2019
Lug (2.5,2.7,3.0,3.4,4.0mm)	6,000	Electrical Engineering Practice I	16, Jan. 2019
Cable 1.5mm (100m)	1	Electrical Engineering Practice I	16, Jan. 2019
Cable 1mm (100m)	1	Electrical Engineering Practice I	16, Jan. 2019
Circuit breaker (Single)	10	Electrical Engineering Practice II	16, Jan. 2019
Circuit breaker (Three Phase)	10	Electrical Engineering Practice II	16, Jan. 2019
Residual current device (Single)	10	Electrical Engineering Practice II	16, Jan. 2019
Residual current device (Three Phase)	10	Electrical Engineering Practice II	16, Jan. 2019
Magnetical Contactor	30	Machine Control Practice	16, Jan. 2019
Overload relay	30	Machine Control Practice	16, Jan. 2019

List of major equipment for VDEE (Year I) delivered from Japan (May 2019)

Item	Manufacturer	Qty (set)	Module
Episcope	ELMO	2	All
Interactive Projector	Canon	1	All
Drawing Kit	Uchida Yoko	20	Engineering Drawing CAD
Drawing Board	KOKUYO	20	Engineering Drawing CAD
Vernier Calliper	Mitutoyo	21	Safety and Metal Processing
Micrometer	Mitutoyo	21	Safety and Metal Processing
Tool set	HOZAN	21	Safety and Metal Processing
Small Welding Machine	Star Electric	2	Safety and Metal Processing
Crimping Tool	LOBTEX	2	Safety and Metal Processing
Electromagnetic induction	Shimadzu Rika	2	Mgtism and Electromgtism
Variable Autotransformer	Yamabishi Denki	5	Mgtism and Electromgtism

Electromagnet	Shimadzu Rika	2	Mgtism and Electromgtism
Dial Resistor	Showa Dengyosha	8	Electrical Circuit I
Slide Resistor	Yamabishi Denki	4	Electrical Circuit I
Wheatstone Bridge	MCP Japan	4	Electrical Circuit I
DC/AC Ammeter /Voltmeter	Standard Electric Works	30	Electrical Circuit I
RCD Training Board	Showa Dengyosha	1	Electrical Engineering Practice I
Megger	Kyoritsu	3	Electrical Engineering Practice I
Earth Resistance Tester	Kyoritsu	3	Electrical Engineering Practice I
Tool set (for Electrical Works)	TRUSCO	20	Electrical Engineering Practice I
Control Panel Assembly Practice Kit	BYNAS	11	Electrical Engineering Practice II
Relay Sequence Training Kit	Showa Dengyosha	10	Machine Control Practice
Induction Motor	SEIKOSHA	4	Machine Control Practice
Bread Board	Sunhayato	21	Analogue Electronics
DC Power Supply	TAKASAGO	5	Analogue Electronics
Signal Generator	Texio Technology	5	Analogue Electronics
Oscilloscope	Texio Technology	5	Analogue Electronics
Murry Loop Tester	Fujikura Dia Cable	1	Electrical power engineering
Transformer	Swallow Electric	8	All

List of equipment for VDEE (Year I) procured in Uganda (Mar. 2019)

Item	Qty	Module	Purchased Date
Watt hour meters (Single phase)	3	Electrical Engineering Practice I	1, Mar. 2019
Watt hour meters (3 phase)	3	Electrical Engineering Practice I	1, Mar. 2019
Cable Jointing Kit (2.5mm)	200	Electrical Engineering Practice I	1, Mar. 2019
Cable Jointing Kit (6mm)	200	Electrical Engineering Practice I	1, Mar. 2019

Crimping Tool	2	Electrical Engineering Practice I	1, Mar. 2019
Line Maker Chalk Line (Stanely)	5	Electrical Engineering Practice I	7, Mar. 2019
Line Maker Chalk Line (FatMax)	5	Electrical Engineering Practice I	7, Mar. 2019
Optical Cable	2	Electrical Engineering Practice II	11, Mar. 2019
Overload relay	30	Machine Control Practice	5, Feb. 2019
Push Buttons	60	Machine Control Practice	5, Feb. 2019
Pilot Lamps	60	Machine Control Practice	5, Feb. 2019
Selector Switch	20	Machine Control Practice	5, Feb. 2019
Printer	1	N.A. (Instructors` office)	14, Mar. 2019
Projector	1		7, Mar. 2019
Projector Mounting	1		7, Mar. 2019
Desktop PC	1		7, Mar. 2019
Laptop PC	4		7, Mar. 2019
Toner	4		14, Mar. 2019

List of textbooks procured in Uganda for VDAE (Mar. 2019)

Code of Module	Author	Title	Qty
VDAE 1101	N.A. Saleemi.	Entrepreneurship, 3rd Edition.	2
VDAE 1101	Matthew Strawbridge (2006)	Word processing Advanced ECDOL Module 3.	2
VDAE1102	Bolton W. (1997)	Essential mathematics for Engineering.	2
VDAE1102, 1202	Bird, J. 2010.	Engineering Mathematics.	3
VDAE1103	R.C.Hibbeler	Mechanics of Materials 8th	2

		Edition	
VDAE1103, 1203	Kenneth G. Budinski; Michael K. Budinski (2009)	Engineering Materials, Properties and Selection	4
VDAE1103	Hajra Choudhury, S.K	Elements of workshop technology	1
VDAE1103	Bolton W. (2006)	Mechanical Science, 3rd Edition	2
VDAE1104	Edward Jackson (1976)	Advanced Level Technical Drawing Metric Edition, Longman	2
VDAE1104, 1204	Terence Driscoll (1988)	Technical Drawing for Today, Book 1.	4
VDAE1104, 1204	Terence Driscoll (1991)	Technical Drawing for Today Book 2.	4
VDAE1105, 1106, 1216	Muhammed H.Rashid (1993).	Power Electronics, Circuits, Devices and Applications 2nd Edition.	5
VDAE1105, 1108, 1109, 1208, 1216, 1210, 1211, 1217, 2112, 2113, 2117, 2118, 2119, 2120, 2121	Jack Erjavec (2009)	Automotive Technology, A systems Approach, 5th Edition	30
VDAE1105, 1106, 1108, 1208, 1216, 1211, 1217, 2112, 2113, 2118, 2119, 2120, 2218	Tom Denton (2011)	Automobile Electrical and Electronics Systems, 4th Edition: Automotive Technology: Vehicle Maintenance and Repair.	26
VDAE1105, 1106	Boylestad, R. L. and Louis Nashelsky (2008).	Electronic Device and Circuit Theory, 9th Edition.	3
VDAE 1107	Barbara Kasser (1998)	Simple Solutions, Essential Skills, Using The Internet, 4th Edition.	2
VDAE 1107	JoAnne Woodcock (1998)	PCs for Beginners: A Low-Tech Guide to High Technology	2
VDAE 1107	Mahmoud M. Farag (1997)	Materials Selection for Engineering design.	2

VDAE 1107	John R. BedFord (2009)	Metalcraft Theory and Practice	2
VDAE 1108, 1217	John Fenton (2000)	Gasoline Engine Analysis (Advances in Vehicle Design)	4
VDAE 1109, 1210	Nunney, M. J.(1992)	Light and Heavy Vehicle Technology.2nd Edition	4
VDAE 1109	James E. Duffy (2013)	Modern Automotive Technology 8th Edition	19
VDAE 1202	Bolton W. (1997)	Essential mathematics for Engineering.	2
VDAE 1203	Bolton W. (2006)	Mechanical Science, 3rd Edition	2
Total			131

List of textbooks procured in Uganda for VDEE (Mar. 2019)

Code of Module	Author	Title	Qty
VDEE1101, 1201	Kreyszig,E (2011)	Advanced Engineering mathematics	10
VDEE1101	Stroud and D.J.Booth(2007).	Engineering Mathematics.	4
VDEE1102	Basant Agrawal	Engineering drawing.	5
VDEE1102	Surjit Singh (2001).	Electrical Engineering Drawing.2nd Edition	5
VDEE1103	Hajra Choudhury, S.K	Elements of workshop technology	5
VDEE1104	Bird.J,Bolton W, Mike Tooley(2008).	Electrical Technologies.Know it all	5
VDEE1104, 1210	Bird.J(2014).	Electrical and Electronics Principles and Technology	10
VDEE1105	Bird.J(2011).	Electrical Circuit Theory and Technology	5
VDEE1106, 1212	Platt,C (2009).	Make:Electronics:Learning by discovery	10
VDEE1106	IEE Regulations	Requirements for Electrical Installations (IET Wiring Regulations 18th Edition)	5
VDEE1107	Raisi F.A (2011)	Basic computer Skills 1st Edition	5
VDEE1107	Gupta, C.B and N.P.,	Entrepreneurship Development in India :	5

	Sprinivasan	text and cases	
VDEE1107	Bough Bennie (2005)	101 Ways to improve your communication skills instantly 4th Edition	5
VDEE1208	Prof. Sham Tickoo Purdue Univ. and CADCIM Technologies	AutoCAD Electrical.9th Edition.	5
VDEE1208	S. K. Bhattacharya (2009)	Electrical Engineering Drawing.	5
VDEE1206	Wheeler A AND A.R Ganji(2009)	Introduction to Engineering Experimentation 3rd Edition	5
VDEE1210	Boylestad, R. L. and Louis Nashelsky (2008).	Electronic Device and Circuit Theory, 9th Edition.	5
VDEE1211	Collin.R.Baylis (1996)	Transmission and Distribution Electrical Engineering.	5
VDEE1211	B.L Theraja A.K Theraja(2013)	Electrical Technology Volume 3 (Transmission, distribution and Utilisation)	5
VDEE1212	Richard C. Dorf, Robert H. Bishop (2005)	Modern Control Systems 1st Edition	5
VDEE 2114	Ghosh A.K (2004)	Introduction to Measurements and Instrumentation	5
VDEE 2114	M.N. Jayaswal & Vishnu Vishnu Priye Janardan Prasad (2010).	Instrumentation and process control.	5
VDEE 2115	Golding , F.C. Widdis(1968)	Electrical measurement and Measuring instruments.New editio	5
VDEE 2115	Rajput R.K. S.Chad(2016)	Electrical and Electronics measurements and instrumentation.	5
VDEE 2116	Anokh Singh,A.K Chhabra 2013	Fundamentals of Digital Electronics and Micro processors	5
VDEE 2117	W.Bolton.2009	Programmable Logic Controllers	5
VDEE 2118	Ronald Tocci(2016)	Digital systems principals and Application .12th Edition	5
VDEE 2118	Virendra Kumar	Digital Electronics.Theory and Experiments	5

	(2007)		
VDEE 2105	Arthur Morley, Edward Hughes.	Principles of Electricity,5th Edition	5
VDEE 2107	Rush, T(2012).	Educational Management Administration & Leadership (Educ Manag Admin Leader)	5
VDEE 2107	SALEEMI, NISAR AHMAD.(2009)	ENTREPRENEURSHIP SIMPLIFIED	5
VDEE 2219	David M. Buchla, Thomas E. Kissell, Thomas L. Floyd	Renewable Energy Systems	5
VDEE 2219	Tarlok Singh 2010	Transmission and distribution(electrical power I)	5
VDEE 2220	AUGUST HAND ROBERT ROSENBERG	Electric Motor Repair 3rd Edition	5
VDEE 2221	Er.R.K Rajput(2008)	Robotics and industrial automation	5
VDEE 2222	Dr.C.S.Indulkar 2011	Electrical Machines and Power systems (Problems and solutions)	5
Total			194

List of major equipment for VDEE (Year II) delivered from Japan (Jan.2020)

Module	Item	Manufacturer	Qty (Unit)
Instrumentation I	Ohm Meter	Hioki E.E Corporation	4
Electrical Circuit II	AC Ammeter / AC Voltmeter	Hioki E.E Corporation	8
Electrical Circuit II	Wattmeter	Hioki E.E Corporation	2
Factory Automation	Stepping Motor/Driver	Shinano Kenshi	8
Industrial Electrical Machines	Slide Transformer (3)	Yamabishi Denki	2
Industrial Electrical Machines	Slide Transformer (1)	Yamabishi Denki	2
Industrial Electrical Machines	Transformer Trainer	Kyonan Electric	1
Instrumentation II	4 Process Feedback Control Study Unit	Tokyo Meter	1
Motor Rewinding	Dryer	Yamato Scientific	1
Instrumentation I	Wattmeter Hour	Shimadzu Scientific	1

Digital Electronics	Digital IC Trainer Kit	Sunhayato	21
Electrical Engineering Practice III	Bending Machine	Hydraulic Type Pipe Bendor	2
Instrumentation I	Calibrator	Sanwa Electric Instrument	210
Instrumentation I	Ohm Meter	Sanwa Electric Instrument	5
Instrumentation I	Wattmeter Hour	Yokogawa Electric	2
Microcontroller	Arduino Starter Kit English	Elegoo	15
Motor Rewinding	Digital Coil Winder	Yoshida Denzai Kogyo	2
Industrial Electrical Machines	Induction regulator (3)	Seikosha MFG	1
Industrial Electrical Machines	Induction regulator (1)	Seikosha MFG	1
Electrical Engineering Practice III	Pipe Thread	Asada	1
Electrical Engineering Practice III	Hole Saw Set	Jefcom	4
Motor Rewinding	Tacometer	Line Seiki	2
Electrical Engineering Practice III	Hand Saw	Makita	2
Motor Rewinding	Motor (1)	Hitachi Motor	20
Motor Rewinding	Transformer	Swallow	1
Motor Rewinding	Motor (3)	Fuji Electric	20
Renewable Energy	Equipment for a Demonstration of Power Generation by Wind	Excel	5
Electrical Engineering Practice III	Impact Driver	Makita	4
Electrical Engineering Practice III	Power Cutter	Makita	4

List of textbooks procured in Uganda for VDAE (Jan. 2020)

Module	Author	Title	Qty
Applied Mathematics I, Applied Mathematics II	Michael Greenberg 1998	Advanced Engineering Mathematics 2nd Edition	4

Applied Mathematics II	Bird,J.2017	Engineering Mathematics, 8th Edition	1
Engineering Science I, Engineering Science II	Hajra Choudhury, S.K, 2010	Elements of workshop technology, Vol 2. Paper back	3
Fundamentals of Electricity	Muhammed H.Rashid (2013)	Power Electronics,Circuits, Devices and Applications 4th Edition.	1
Fundamentals of Electricity	Boylestad, R. L. and Louis Nashelsky (2013)	Electronic Device and Circuit Theory, 11th Edition.	3
Engineering Science II	R.C.Hibbeler (2018)	Mechanics of Materials 10th Edition	2
Engineering Drawing II	Edward Jackson (1976)	Advanced Level Technical Drawing Metric Edition, Longman	1
CI Mechanical Controlled Fuel System, Diagnosis II, Vehicle Inspection II, CI Electronic Controlled Fuel System, Automatic Transmission, Brake System, Diagnosis I, Vehicle Inspection I, SI Engine Control System	James E. Duffy (2016)	Modern Automotive Technology 9th Edition	8
Diagnosis I, Brake System, Automatic Transmission, Vehicle Inspection II, Diagnosis II	Tom Denton (2017)	Automobile Electrical and Electronics Systems, 5th Edition: Automotive Technology: Vehicle Maintenance and Repair.	6
Sub-Total			29

List of textbooks procured in Uganda for VDEE (Jan. 2020)

Module	Author	Title	Qty
Applied Mathematics I	Stroud and D.J.Booth(2013)	Engineering Mathematics (7th Edition)	1
Safety and Metal Processing	Serope Kalpakjian, Steven R. Schmid and K.S. Vijay Sekar (2013)	Manufacturing, Engineering and Technology.7th Edition	5
Electrical	Stanley,W.D,Hackworth,J.R and	Fundamentals of Electrical	2

Engineering Practice II	R. Jones (2006)	Engineering and Technology	
Sub-Total			8

List of TOT

List of TOT for instructors 2015-2016 (Motor Vehicle)

Module / Sub module	Dpt.	Number of Instructors	Place (Company)	Duration
Basics of Diagnosis	Motor Vehicle	10	Namanve (Toyota Uganda)	4 th -6 th Aug 2015
Diesel and Gasoline	Motor Vehicle	5	Namanve (Toyota Uganda)	14 th -17 th Sep. 2015
Diagnosis Engine 1	Motor Vehicle	10	Namanve (Toyota Uganda)	1 st -4 th Feb. 2016
Diagnosis Engine 2	Motor Vehicle	7	Namanve (Toyota Uganda)	14 th Mar -17 th Mar 2016
Electrical 1	Motor Vehicle	4	Namanve (Toyota Uganda)	29 th Feb -3 rd Mar 2016
Electrical 2	Motor Vehicle	4	Namanve (Toyota Uganda)	18 th – 21 st Apr 2016
Chasis 1	Motor Vehicle	4	Namanve (Toyota Uganda)	30 th May – 2 nd Jun 2016
Chasis 2	Motor Vehicle	3	Namanve (Toyota Uganda)	27 th -30 th Jun 2016

List of TOT for instructors 2016-2017 (Mechatronics, Management)

Subject / Course	Dpt.	No. of Instructors	Place (Company/Lecture)	Duration
PLC devices	Mechatronics	4	Japan	22 nd Aug-16 th Sept 2016
KAIZEN Initiative	Management	3	Nairobi Kenya	26 th -28 th Apr 2017
Sensor and Motor	Mechatronics	7	Japan	29 th Aug-29 th

devices				Sept 2017
Skilling in Mechatronics	Mechatronics	8	Japan	1 st -29 th Sept 2017

List of TOT conducted by short term experts 2016-2017 (Motor Vehicle)

Module / Sub module	Dpt.	Number of Instructors	Place (Company)	Duration
Curriculum development	Motor Vehicle	10	NVTI (JICA Short term expert)	May –Jun 2016.
Preparation of training materials	Motor Vehicle	10	NVTI (JICA Short term expert)	Nov- Dec 2016
Inventory management and database	Motor Vehicle	2	NVTI (JICA Short term expert)	Nov- Dec 2016
Training on new diploma equipment	Motor Vehicle	10	NVTI (JICA Short term expert)	April 2017

List of TOT for instructors 2017-2018 (Electricity, Motor Vehicle)

Subject / Course	Dpt.	No. of Instructors	Place (Company/Lecture)	Duration
Instrumentation	Electricity	2	Masindi (Kinyara Sugar)	23 rd Jul.- 24 th Aug.2017
Motor, Sensor (Mechatro)	Electricity	3	Japan (Kinki Polytechnic)	29 th Aug. – 30 th Sep. 017
Instrumentation	Electricity	2	Masindi (Kinyara Sugar)	17 th Oct. – 17 th Nov.2017
Air-Brake System	Motor Vehicle	5	NVTI (Cooper Motor)	9 th Dec.2017
Auto CAD	Motor Vehicle, Electricity	12	NVTI (BCP instructor)	5 th - 11 th Dec.2017
OJT (attachment)	Motor Vehicle	2	Kampala, Namanve (Toyota Uganda)	2 nd -12 th Jan. 2018

List of TOT for instructors 2018 (Motor Vehicle)

Subject / Course	Dpt.	No. of Instructors	Place (Company/Lecture)	Duration
Maintenance methods for engine components	Motor Vehicle	3	NELIS TECHNICAL SERVICES LTD	4 th to 15 th June 2018
Service Advisor training	Motor Vehicle,	2	Namanve (Toyota Uganda)	18 th to 20 th July 2018
Diagnosis Chassis	Motor Vehicle	2	Namanve (Toyota Uganda)	3 rd to 27 th July 2018

List of TOT for instructors 2018-2019 (Motor Vehicle)

Subject / Course	Dpt.	Number of Instructors	Place (Company/Lecture)	Duration
Basics of Diagnosis	Motor Vehicle	2	Namanve (Toyota Uganda)	5 th to 9 th Nov. 2018
Integrated ignition system	Motor Vehicle	6	NVTI (NVTI / Mr. Alex Madira)	30 th Jan. to 1 st Feb. 2019
Lighting system and body electrical and accessories	Motor Vehicle	6	NVTI (NVTI / Mr. Joseph Sekitoleko)	30 th Jan. to 1 st Feb. 2019

List of TOT for instructors 2019 (Electricity, Electronics, Motor Vehicle)

Subject / Course	Dpt.	Number of Instructors	Place (Company/Lecture)	Duration
Auto CAD	Electricity, Electronics, Motor Vehicle etc.	9	NVTI (ADOP/ Mr. Atwom Obonyo)	21 st Jan. to 1 st Feb. 2019

List of TOT for instructors 2019 (Motor Vehicle, Electricity, Electronics)

Module / Sub module	Dpt.	Number of Instructors	Place (Company)	Duration
Diagnosis electrical II	Motor Vehicle	2*	Namanve (Toyota Uganda)	20 th - 24 th May 2019
Vehicle tyres handling	Motor Vehicle	8	Mandela Auto Zone (City Tyres)	15 th - 16 th May 2019
Diesel engine controls	Motor Vehicle	2*	Namanve (Toyota Uganda)	24 th - 28 th Jun. 2019

Auto CAD	Electricity, Electronics, Motor Vehicle	9	NVTI (ADOP/ Mr.Atwom Obonyo)	21 st Jan. - 1 st Feb. 2019
Electrical circuit I Electrical Measurement	Electricity, Electronics, Motor Vehicle	6	NVTI (JICA Short term expert)	8 th - 26 th Jul. 2019
Electrical Power	Electricity	2	Lugogo etc, (JETCL)	8 th Jul. – 30 th Aug. 2019

* An instructor participated as a co-trainer, and another one participated as a trainee.

List of TOT for instructors 2019-2020 (Motor Vehicle, Electricity, Electronics, Machining)

Module / Sub module	Dpt.	Number of Instructors	Place (Company)	Duration
On the Job Training	Motor Vehicle	8	Namanve and Kampala (Toyota Uganda)	16 th Dec. 2019 –29 th Jan. 2020 (2 weeks training)
Gasoline engine diagnosis	Motor Vehicle	2*	Namanve and Kampala (Toyota Uganda)	4 th - 8 th Nov. 2019
Diagnosis Gasoline engine controls	Motor Vehicle, Machining	3*	Namanve (Toyota Uganda)	17 th – 21 st Feb. 2020
Arduino Instrumentation I Digital Electronics Magnetism and Electromagnetism	Electricity, Electronics, Machining	10	NVTI (JICA Short term expert)	10 th Feb- 6 th Mar. 2020

* An instructor who already completed Toyota Uganda TOT participated as a co-trainer, and others participated as a trainee.

List of TOT for instructors 2020 (VDAE/VDEE)

Module	Dpt.	Number of Instructors	Place (Facilitator)	Duration
Edmodo Learning Management	Motor Vehicle, Electricity,	20	NVTC (Gilbert)	7 th to 18 th Dec. 2020 (1 week * 2

System (Phase I)	Pedagogy, BCP		Niwamanya)	groups)
Edmodo Learning Management System (Phase II)	Motor Vehicle, Electricity, Pedagogy, BCP	10	NVTC (Gilbert Niwamanya)	8 th Feb.-5 th Mar. 2021

List of Mechatronics Upgrading training

List of Mechatronics Trial Training (Jun. 2017)

No	Title of Training	Number of trainees	Name of companies	Duration
		1	Kinyara Sugar	27 th June – 30 th June 2017
		2	Roofings	
		1	Kibs System Ltd	
		1	Reco Industries	
		1	Uganda Breweries	
		1	Harris International	
		1	Crown Beverages	
		1	Fine spinners	
	Total	9	8 companies	

List of Mechatronics Main Training (Jul. - Aug. 2017)

No	Title of Training	Number of trainees	Name of companies	Duration
1	Basic PLC Control	1	Reco Industries	31 st July – 4 th August 2017
		1	Samsonic Comptech Ltd	
		2	Abacus Parental Drug Ltd	
		1	Uganda Clays	
		1	Roofings Luboowa	
		1	Crown Beverages	
		1	Kibs Systems Ltd	
		1	Reco Industries	7 th July –

2	Motor Control by PLC	1	Samsonic Comptech Ltd	11 th August 2017
		2	Abacus Parental Drug Ltd	
		1	Uganda Clays	
		1	Roofings Luboowa	
		1	Crown Beverages	
		1	Kibs Systems Ltd	
3	Motor Control by PLC	1	Reco Industries	14 th August – 18 th August 2017
		1	Samsonic Comptech Ltd	
		2	Abacus Parental Drug Ltd	
		1	Uganda Clays	
		1	Roofings Luboowa	
		1	Crown Beverages	
		1	Kibs Systems Ltd	
		24	8 companies	

List of Mechatronics Upgrading training (February – July 2018)

No.	Module Code (Title)	Number of Trainee s	Name of Companies	Days of training	Period
1	RE 01(Basic relay sequence control)	1	•Self Employed1	2	Feb 8 th – Feb 9 th
		1	•Medisell Uganda Ltd		
		1	•Luuka plastics Ltd	2	July 3 rd – July 4 th
		1	•Bwendora Dairy Farm		
2	RE02(Application relay sequence control)	1	•Self Employed1	2	March 21 st – March 22 nd
		1	•Medisell Uganda Ltd		
		1	•Kinyara Sugar Ltd	2	July 5 th – July 6 th
		1	•Bwendero Dairy Farm		
3	PL11(Basic of PLC control)	1	•Ferdult Engineering	4	Feb 12 th – Feb 15 th
		1	SVS Ltd		
		1	•Self Employed1 •Medisell Uganda Ltd		

		1	•Self Employed 2	4	May 7 th –
		1	•Reco Industries Ltd		May 10 th
		1	•Cable Corporation Ltd		
		1	•Kinyara Sugar Ltd	4	July 9 th –
		1	•Bwendora Dairy Farm		July 12 th
4	PL12(Business practice of electric motors using PLCs)	1	•Ferdult Engineering	3	Feb 19 th –
		1	SVS Ltd		
			•Self Employed1		Feb 21 st
		1	•Reco Industries Ltd	3	May 14 th –
1	• Ferdult Engineering SVS Ltd				
	•Mashaki Refrigeration & Colp storage Ltd	3	July 16 th –		
1	• Bwendero Dairy Farm				
		1	• Medisell Uganda Ltd	3	April 9 th –
5	PL14 (Touch panel application technology using PLCs)				April 11 th
6	PN31(Control technology of the pneumatic apparatus)	1	• Medisell Uganda Ltd	2	March 1 st –
		1	•Self Employed1		
			•Reco Industries Ltd	2	May 17 th –
		1	•Reco Industries Ltd		
			• Ferdult Engineering SVS Ltd		June 4 th –
1	•Luuka Plastics Ltd	2	July 19 th –		
1	•Mashaki Refrigeration & Colp storage Ltd				
1	Kinyara Sugar Ltd				
7	PS 43 (Pneumatic system technology)	1	•Self employed1	3	March 5 th –
		1	•Medisell Uganda Ltd		
		1	•Reco Industries Ltd	3	June 6 th –
1	• Ferdult Engineering SVS Ltd				

8	MO52(AC motor drive and control)	1 1 1	•Reco Industries Ltd •Self employed1 •Medisell Uganda Ltd	2	June 25 th – June 26 th
9	MO54(Stepping motor drive and control)	1 1 1 1	•Reco Industries Ltd •Self employed1 •Medisell Uganda Ltd • Ferdult Engineering SVS Ltd	3	June 27 th – June 29 th
	Total	43	8 companies 2 Self employed	51 days	

Frequency of participation of each company

No	Company	Frequency of participation
1	Kinyara Sugar Ltd	3
2	Luuka plastics Ltd	3
3	Reco industries Ltd	7
4	Ferdult Engineering services	6
5	Bwendora Dairy Farm	4
6	Mashaki Refrigeration & Colp storage Ltd	2
7	Cable Corporation Ltd	1
8	Medisell (U) Ltd	8
9	Self Employed 1	8
	Self Employed 2	1
	TOTAL	43

*Please note that some participated in more than one session at different times for different module. For example, Self Employed 1, he participated 8 different times in different modules.

List of Mechatronics Upgrading training (August – December 2018)

No.	Module Code & Title	Number of Trainees	Name of Companies	Days of training	Duration
1		1	•Kakira Sugar Ltd	4	Sep 10 th –

	PL11(Basic of PLC control)	1	•First Timeline Investmants (U) Ltd	4	Sep 13 th
		1	•Electrotel Ltd		Nov 26 th – Nov 29 th
		1	•Uganda Petroleum Institute Kigumba		
		1	•Hima Cement		
		1	•Self-employed 1		
1	•Crown Beverages Ltd				
2	PL12(Business practice of electric motors using PLCs)	1	•Uganda Petroloum Institute Kigumba	3	Dec 3 rd – Dec 5 th
1	•Self-employed 2				
3	PL14 (Touch panel application technology using PLCs)	1	•Ferdult Engineering services Ltd	3	Aug 13 th – Aug 15 th
		1	•Mashaw Refrigeration & Colp storage Ltd		
		1	•Self-employed 1		
		1	•Kinyara Sugar Ltd		
4	PN31(Control technology of the pneumatic apparatus)	1	•Luuka plastics	2	Aug 20 th – Aug 21 st
		1	•Self employed 1		
		2	•Luuka Plastics Ltd	2	Sep 17 th – Sep 18 th
		1	•Kakira Sugar Ltd		
		1	•Luuka Plastics		
1	•Crown Beverages Ltd				
5	PS 43 (Pneumatic system technology)	1	•Mashaw Refrigeration & Colp storage Ltd	3	Aug 22 nd – Aug 24 th
		1	•Self employed 1		
		1	•Kakira Sugar Ltd	3	Sep 19 th – Sep 21 st
		1	•Electrotel Ltd		
		1	•Crown Beverages Ltd		
6	MO52(AC motor drive and control)	1	•Self Employed 1	2	Aug 6 th – Aug 7 th
		1	•Mashaw Refrigeration & Colp storage Ltd		
		1	•First Timeline Investments (U) Ltd	2	Oct 1 st – Oct 2 nd

7	MO54(Stepping motor drive and control)	1	•Self Employed 1	3	Aug 8 th – Aug 10 th
		1	•Mashaw Refrigeration & Colp storage Ltd		
		1	•First Timeline Investments (U) Ltd	3	Oct 3 rd – Oct 5 th
8	Tailor made training	18	Mukwano Industry Ltd	4	Nov.28 th – Dec 1 st
		21	Mukwano Industry Ltd	4	Dec 3 rd - Dec 6 th
	Total	70	11 companies, 2 Self employed	47 days	

Frequency of participation of each company

No	Company	Frequency of participation
1	Kakira Sugar Ltd	3
2	Kinyara Sugar Ltd	1
3	Luuka plastics Ltd,	4
4	First Timeline Investmants (U) Ltd,	3
5	Ferdisult Engineering services	1
6	Electrotel Ltd,	2
7	Mashaw Refrigeration & Colp storage Ltd	4
8	Hima Cement	1
9	Uganda Petroleum Institute Kigumba	2
10	Crown Beverages Ltd	3
11	Mukwano Industry Ltd,	39
12	Self Employed 1	6
	Self Employed 2	1
	TOTAL	70

*Please note that some participated in more than one session at different times for different module. For example, Self Employed 1, he participated 6 different times in different modules.

List of Mechatronics Upgrading training (Feb – July 2019)

No.	Module Code & Title	Number of Trainees	Name of Companies	Days of training	Duration
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1	RE 01	1	•Grain Pulse	3	Feb 18 th – Feb 20 th
		2	•American Embassy	3	Jun 17 th –Jun 19 th
2	RE 02	1	•Grain Pulse	2	Feb 21 st -Feb 22 nd
		2	•American Embassy	2	Jun 20 th – Jun 21 st
3	PL 11	1	•Grain Pulse	5	Mar 11 th - Mar 15 th
		1	•Africa EMS Nyamwamba Ltd		
		1	•National Coffee Research Institute	5	May 13 th – May 17 th
		2	•American Embassy	5	Jun 24 th - Jun 28 th
		3 1	•G-Tech Ltd •Self employed	5	Jul 29 th – Aug 2 nd
4	PL 12	1	•Grain Pulse	3	Mar 18 th – Mar 20 th
		1	•Africa EMS Nyamwamba Ltd		
		1	•National Coffee Research Institute		
		1	•First Timeline Investments (U) Ltd		
5	PN 31	1	•Grain Pulse	2	Mar 25 th –Mar 26 th
		1	•National Coffee Research Institute		
		1	•Crown Beverages		
7	PS 43	1	•Grain Pulse	3	Mar 27 th –Mar 29 th
		1	•National Coffee Research Institute		
8	PL 14	1	•Grain Pulse	3	May 20 th –May 22 nd
		1	•National Coffee Research Institute		

		1	•Africa EMS Nyamwamba Ltd		
		1	•Self employed		
9	MO 54	1	•Grain Pulse	3	Apr 10 th - Apr 12 th
		1	•Crown Beverages		
		1	•National Coffee Research Institute		
10	Tailor made training	21	Mukwano Industries	2	Apr 4 th - Apr 5 th
	Total	52	8 companies, 2 Self employed	46 days	

Frequency of participation of each company

No	Company	Frequency of participation
1	Grain Pulse	8
2	American Embassy	6
3	Africa EMS Nyamwamba	3
4	First Timeline Investments (U) Ltd,	1
5	Crown Beverages	2
6	National Coffee Research Institute	6
7	Mukwano Industries	21
8	G – Tech Ltd	3
9	Self employed	2
	TOTAL	52

*Please note that some participated in more than one session at different times for different modules. For example, American Embassy (2 people) participated 3 different times in different modules.

List of Mechatronics Upgrading training (Aug. 2019 – Feb. 2020)

No.	Module Code & Title	Number of Trainees	Name of Companies	Days of training	Duration
1	RE 01	3	• G-Tech Ltd	3	Aug 12 th – Aug 14 th
		1	• East African roofings System Ltd	3	Dec 2 nd – Dec 4 th

		1	• NEC Uzima Ltd		
		2	• Cipla Chemicals		
		1	• Self Employed		
2	RE 02	3	• G -Tech	2	Aug 15 th – Aug 16 th
		1	• East African roofings System Ltd	2	Dec 5 th – Dec 6 th
		1	• NEC Uzima Ltd		
		2	• Cipla Chemicals		
		1	• Self Employed		
3	PL 11	1	• East African roofings System Ltd	5	Dec 9 th – Dec 13 th
		1	• NEC Uzima Ltd		
		2	• Cipla Chemicals		
		1	• Self Employed		
4	PL 12	3	• G-Tech	3	Aug 5 th – Aug 7 th
		2	• American Embassy		
		1	• Self Employed		
		1	• East African roofings System Ltd	3	Jan 13 th – Jan 15 th
		2	• Cipla Chemicals		
		1	• Self Employed		
5	PL14	3	• G-Tech	3	Aug 8 th – Aug 10 th
		2	• American Embassy		
		1	• Self Employed		
		1	• East African roofings System Ltd	3	Jan 16 th ,17 th & 20 th
		2	• Cipla Chemicals		
		1	•Self Employed		

6	PN 31	2	• American Embassy	2	Aug 12 th – Aug 13 th
		1	• Self Employed		
		1	• East African roofings System Ltd	2	Jan 21 st – Jan 22 nd
		2	• Cipla Chemicals		
		1	•Lubilia Kawembe Hydro Ltd		
		1	• Self Employed		
7	PS 43	2	• American Embassy	3	Aug 14 th – Aug 16 th
		1	• East African roofings System Ltd	3	Jan 23 rd ,24 th & 27 th
		2	• Cipla Chemicals		
		1	•Lubilia Kawembe Hydro Ltd		
		1	•Self Employed		
8	MO 54	1	• East African roofings System Ltd	3	Jan 28 th – Jan 30 th
		2	• Cipla Chemicals		
		1	• Self Employed		
	Total	60 participants	6 companies, 2 Self employed	40 days	

Frequency of participation of each company

No	Company	Frequency of participation
1	G-Tech	12
2	American Embassy	8
3	East African roofings System Ltd	8
4	NEC Uzima Ltd	3
5	Cipla Chemicals	16
6	Lubilia Kawembe Hydro Ltd	2
7	Self Employed 1	3
8	Self Employed 2	8

	TOTAL	60
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*Please note that some participated in more than one session at different times for different modules. For example, Cipla Chemicals (2 people) participated 8 different times in different modules.

List of Mechatronics Upgrading training (Mar. 2020 – Aug. 2020)

No.	Module Code & Title	Number of Trainees	Name of Companies	Days of training	Duration
1	RE 01	2	• Self Employed	3	Mar 16 th – Mar 18 th
2	RE 02	2	• Self Employed	2	Mar 19 th – Mar 20 th
	Total	4 participants	2 Self employed	5 days	

Frequency of participation of each company

No	Company	Frequency of participation
1	Self Employed 1	2
2	Self Employed 2	2
	TOTAL	4

*Please note that some participated in more than one session at different times for different modules.

List of short courses per department

List of short courses per department (Feb. - Jul. 2019)

No.	Department	Title of the Short Training Course	In charge (Name of instructors)	Recipient (name of group)	Period
1	Electronics	a) Radio system	Mr. Edema	JRS*	Jul. 2019**

		b) TV system	Mr. Apire	JRS*	Jul. 2019**
		c) Computer systems	Mr. Ezra, Ms. Nassali	JRS*	Jul. 2019**
		d) Phone repair and maintenance	Mr. Odunya (Outsourced)	JRS*	Jul. 2019**
2.	Machining	a) Basic bench work practice	Mr. Bamuruli, Mr. Sseggujja	Kigumba Petroleum Institute students	Feb. 2019
3.	Wood working	a) Machine course I	Mr. Nyanzi	Instructors from Mubende TI, Company workers	Feb. 2019
		b) Machine course II	Mr. Nyanzi, Mr. Okwir	Instructors from NVTI, Iganga TI, Company workers	Feb. 2019
		c) Introduction course to Sketch up	Mr. Nyanzi, Mr. Ezra	Trainees of Woodwork, Welding, Electrical, Electronics Dep. NVTI	Jun. 2019
4.	Welding and Metal Fabrication	a) MAG welding	Mr. Akumba	American Embassy	Jun. - Jul. 2019
		b) TIG (Stainless steel welding)	Mr. Akumba	American Embassy	Jul. - Aug. 2019
5.	Plumbing and Sheet metal	a) Air Conditioning	Mr. Bwambale, Mr. Niwamanya, Mr. Ochwo	USSIA companies, NVTI instructors	Mar. 2019
		b) Advanced pipe fitting work	Mr. Niwamanya	USSIA companies, NVTI instructors	Jun. 2019

*: JRS (Jesuit Refugee Services)

** : Expected period is from Jul. 2019 to Nov. 2019

List of short courses per department (Aug. 2019 - Feb.2020)

No.	Department	Title of the Short Training Course	In charge (Name of instructors)	Recipient (name of group)	Period
1.	Electronics	e) Radio system	Mr. Edema	JRS*	Jul. - Nov. 2019 Feb. - Jun. 2020
		f) TV system	Mr. Apire	JRS*	Jul. - Nov. 2019 Feb. - Jun. 2020
		g) Computer systems	Mr. Ezra, Ms. Nassali	JRS*	Jul. - Nov. 2019 Feb. - Jun. 2020
		h) Phone repair and maintenance	Mr. Odunya (Outsourced)	JRS*	Jul. - Nov. 2019 Feb. - Jun. 2020
2.	Electricity	Solar training	Ms. Musenero Janat	SENDEA	Jul. - Aug. 2019
3.	Wood Work	Machine course I	Mr. Nyanzi	DITTE participants on Civil	Nov. 2019
4.	Welding and Metal Fabrication	c) Aluminium Welding	Mr. Akumba	Instructors of 6 TVET institutions**	Jan. 2020
		d) Arc and Gas welding	Mr. Ssezibwa (outsourced) Mr. Akumba	Instructors from UTC Bushenyi, Kalera TI, Nyamitanga, Lake Katwe	Feb. - Mar. 2020

5.	Plumbing and Sheet metal	Advanced pipe fitting work	Mr.Niwamanya	TVET staff from 5 RPTIS	Dec. 2019
6.	Motor Vehicle	Transport and logistics	Mr. Madira	MUBS	Jan. 2020
		EFI and lighting	Mr. Madira	Instructors of 6 TVET institutions**	Jan. 2020
7.	Instructor and Manager	Retooling of upcountry instructors in Wood Work, Welding and Electricity	Mr. Olwa, Mr. Akumba, Mr. Semakula	Instructors from TVET institutions	Aug. - Sep. 2019
8.	All skills training Departments	Do It Yourself training for 10 Youths	Mr. Mayanja		Jan. - Mar. 2020
9.	All Departments	Skills Training	HoDs	Ndejje University	Jun. - Aug. 2019

* JRS (Jesuit Refugee Services)

** TOTs for instructors of 6 TVET institutions in Uganda (Nakapiripirit VTI, St. Daniel VTI, St. Simon Peter VTI, Kasese Polytechnic, St. Joseph TI, UTC Kyema)

List of short courses per department (Mar. 2020 - Mar. 2021)

No.	Department	Title of the Short Training Course	In charge (Name of instructors)	Recipient (name of group)	Period
1.	Electronics	a) Radio system	Mr. Edema	JRS*	Feb. –Mar. 2020
		b) TV system	Mr. Apire Mr. Onyango	JRS*	
		c) Computer systems	Mr. Ezra	JRS*	
		d) Phone repair and maintenance	Mr. Odunya (Outsourced)	JRS*	Oct. 2020- Feb. 2021

2.	Electricity	Solar training	Ms. Musenero Janat Mr. Onyango	Different companies	Feb. - Mar 2020 Oct. – Nov. 2020
				SENDEA	Nov. 2020- Jan. 2021
		PSFU training for ISO accreditation	ECITB	NVTC instructors, other Instructors and companies	Nov. 2020- Jan. 2021
		EDMODO	Mr. Niwamanya	Instructors	Jul. 2020, Dec. 2020, Feb.- Mar.2021
3.	Welding and Metal Fabrication	PSFU training for ISO accreditation	ECITB	NVTC instructors, other instructors and companies	Nov. - Jan. 2021
4.	Plumbing and Sheet metal	PSFU training for ISO accreditation	ECITB	NVTC instructors, other Instructors and companies	Mar. 2020, Nov. -Oct. 2020
5.	Motor Vehicle	EDMODO	Mr. Niwamanya	Instructors	Jul. 2020, Dec. 2020, Feb.- Mar.2021

* JRS (Jesuit Refugee Services)

* ECITB (Engineering Construction Industry Training Board)

Annex 2

Project Design Matrix

Project Title: TVET-LEADING INSTITUTION'S EXPANSION OF HUMAN RESOURCE AND SKILLED WORKFORCE DEVELOPMENT FOR INDUSTRIAL SECTOR IN UGANDA (TVET-LEAD PROJECT)


Version 1

Implementing Agency: Ministry of Education, Science, Technology and Sports (MoESTS)/ Nakawa Vocational Training Institute (NVTI)

Dated 25, MAY, 2015

Target Group: Instructors and management staff in NVTI, Stakeholders of relevant business, vocational, technical education and training (BTVE) institutes

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumption	Achievement	Remarks
Overall Goal NVTI becomes a Center of Excellence (CoE) ¹ which produces industrial human resource responding to the needs of the private sector.	1. More than XX ² % of the graduates obtain a job (including self-employment and apprenticeship) or enrolled in higher education in the relevant areas after completion of the diploma courses. 2. The number of companies which participate in upgrading course increased by xx%. 3. Activities to reflect the needs of the private sector in training are installed in XX % of the institutes which have been supported by NVTI.	1. Questionnaire survey results for private companies that employ NVTI graduates 2. Survey results on BTVE institutes	There is a certain number of private companies that employ NVTI graduates and NVTI has a list of them		
Project Purpose Capacity of NVTI for human resource development responding to the needs of the private sector is strengthened.	1. More than XX % of companies which have employed the graduates of NVTI's diploma courses (motor vehicle and electricity) are satisfied with their performance more than 4 out of five (5) score. 2. More than XX % of companies which have industrial attachment of NVTI's diploma trainees (motor vehicle and electricity) are satisfied with their performance more than 4 out of five (5) score. 3. More than XX % of the company which send their workers to upgrading training is satisfied with the program more than 4 out of five (5) score. 4. Management system based on A PDCA cycle is enhanced 5. XX% of planned action will be implemented	1. Questionnaire survey results for NVTI graduates 2. Questionnaire survey results for participants of in-service training	There are a certain number of private companies that participate in in-service training in NVTI or employ NVTI graduates. And NVTI has lists of them		
Outputs Output 1 Diploma courses in motor vehicle and electricity are established.	1-1. A Public-Private Partnership working group (PPP-WG) ^{3,4} for developing diploma courses is established. 1-2. The curricula and assessment tool of the diploma courses drafted by the working group are officially approved. 1-3. 80% of the instructors who participated in training of trainers (TOT) achieve more than XX % of skills and knowledge acquired on the training contents. 1-4. XX private companies participate in reviewing and evaluating the new diploma courses.	1. Project progress/completion reports 2. Project progress/completion reports 3. Training reports, Checklist for understanding on training contents, Project progress/completion reports 4. Project progress/completion reports	MoESTS and NVTI secures enough human resources and budget required for the Project implementation		
Output 2 Upgrading training in mechatronics is provided.	2-1. Survey on the training needs is conducted. 2-2. 80% of the instructors in TOT (master trainers) achieves more than 85 % on the training contents. 2-3. More than XX company and XX persons participate in the upgrading training. 2-4. More than XX participants are satisfied with the skills offered in the programme.	1. Survey report /number of companies visited 2. Training reports, Checklist for understanding on training contents, Project progress/completion reports 3. Project progress/completion reports	MoESTS and NVTI secures enough human resources and budget required for the Project implementation.		
Output 3 NVTI's management capacity is strengthened.	3-1. XX% of the planned activities for promoting public private partnership is implemented. 3-2. XX% of the upgrading training is implemented according to the action plan. 3-3. XX types and XX times of activities are conducted to promote the participation of vulnerable groups in NVTI's training. 3-4. More than XX% of NVTI's trainees participate in employment and entrepreneurship support activities (seminar, workshop, consultation).	1. NVTI activity report 2,3,4. NVTI activity report, Project progress/completion reports	NVTI secures enough human resources and budget required for the Project implementation.		
Output 4 Function of NVTI to support other BTVE institutes is strengthened.	4-1. More than XX activities to support other BTVE institutes are conducted. 4-2. XX% of the participants of the activities conducted by NVTI is satisfied.	1. NVTI activity report, Project progress/completion reports 2. Report from the participating BTVE institutes	There are a certain number of BTVE institutes which can participate in activities conducted by NVTI		

Activities	Inputs		Pre-Conditions
	The Japanese Side	The Ugandan Side	
<p>0-1. Implement a project baseline survey 0-2. Monitor the project activities regularly 0-3. 5S activities are firmly in place</p> <p>1-1. Establish a Public-Private Partnership working group for developing diploma courses and upgrading course 1-2. Clarify the terms of reference and activities of the board 1-3. Develop the regulations of the diploma courses 1-4. Develop the curricula, assessment tool and educational materials of the diploma courses 1-5. Identify and install necessary equipment 1-6. Assign additional instructors for diploma programme 1-7. Implement training for the assigned instructors 1-8. Implement the diploma courses 1-9. Monitor and evaluate the diploma courses 1-10. Revise the programme based on the results 1-9. 1-11. Recognize the training within UVQF and IQF.</p> <p>2-1. Analyze the training needs of the private sector 2-2. Develop training contents, materials and assessment tool for in-service training 2-3. Select instructors (electronics, machinery) 2-4. Identify and install necessary equipment 2-5. Implement TOT for the instructors 2-6. Implement upgrading training 2-7. Monitor and evaluate the upgrading training 2-8. Revised the training programme based on the result of 2-6. 2-9. Be recognized the training within UVQF or IQF.</p> <p>3-1. Develop a plan of actions (strengthening of public private partnership, planning and management of in-service training, upgrading training, promotion of equitable access, strengthening of employment support activities) for the Committee on Institute Management 3-2. Develop the TORs 3-3. Assign persons in charge for each of the planned activities (3-1) and provide guidance as needed. 3-4. Implement public private partnership through activities (e.g. including training needs analysis, industrial attachment programs, joint curriculum development and joint evaluation of the training) 3-5. Implement and manage upgrading and tailor made training program 3-6. Conduct activities for promoting participation of vulnerable groups (e.g. women and persons with disabilities) in NVTI's training 3-7. Implement employment and entrepreneurship support to NVTI's trainees 3-8. Review the implementation and revised the plan (if necessary)</p> <p>4-1. Identify activities or utilizing NVTI's knowledge and experience to support other BTVE institutes (Vocational Training Institutes and Uganda Technical Colleges). 4-2. Develop a plan for conducting the activities (4-1). 4-3. Conduct the activities based on the plan (4-2). 4-4. Monitor the activities conducted in other BTVE institutes after participating in the activities (4-3) and provide support as required.</p>	<p>a) Long-term experts: 3 persons in the fields such as Chief Adviser/Public-Private Partnership, Curriculum Development/Human Resource Development Management, Project Coordination/Monitoring and Evaluation b) Short-term experts: XX persons in the fields such as Motor Vehicle (Automobile), Electricity, Electronics and Machinery c) Short-term training: In Japan or other countries d) Machinery and equipment necessary items for newly introduced diploma courses and in-service training courses e) Part of the Project implementation cost</p>	<p>a) Services of MoESTS's counterpart personnel and administrative personnel b) Suitable office space with necessary equipment for the JICA Experts and Third Country Experts c) Supply or replacement of machinery, equipment, instruments, vehicles, tools, spare parts and any other materials necessary for the implementation of the Project other than the equipment provided by JICA d) Information as well as support in obtaining medical service e) Credentials or identification cards f) Available data (including maps and photographs) and information related to the Project g) Running expenses necessary for the implementation of the Project h) Expenses necessary for transportation within Uganda of the equipment as well as for the installation, operation and maintenance thereof i) Necessary facilities to the JICA experts for the remittance as well as utilization of the funds introduced into Uganda from Japan in connection with the implementation of the Project</p>	<p>1) Project implementation structure is maintained after NVTI is developed into a vocational college</p> <p>2) Establishment of new diploma courses in NVTI is officially approved before the Project starts</p>
			<p><Issues and countermeasures></p> 

1. The definition of CoE is mentioned in SKILLING UGANDA as follows:

A concept for Centres of Excellence (CoEs) will be developed based on experiences in other countries. CoEs are places where technical expertise (experienced staff, assisted by outside experts) is concentrated for particular occupations. The CoEs will be located close to the relevant industries and labour markets to facilitate a close relationship between training and the world of work. Where possible, CoEs will be managed by or in cooperation with industry (or industry associations). Cooperation will be explored in the construction industry, which has expressed its desire to foster skills development in its sector.

2. "XX" will be identified at Joint Coordinating Committee, based on the result of the baseline survey

3. The PPP working group consists of members from the private sector and relevant organizations, DIT, NVTI, and JICA experts.

4. As for the activities of the working group (WG), WG will recommend or propose to the Board of Governance (BOG) of NVTI for approval.

5. The regulation contains admission requirement, number of students in the courses, fee of the courses and so on.

6. For example, tentative ideas include workshops on sharing NVTI's training management methods and training of management staff of other BTVE institutes at NVTI through their participation in the Project activities.

Project Design Matrix

Project Title: TVET-LEADING INSTITUTION'S EXPANSION OF HUMAN RESOURCE AND SKILLED WORKFORCE DEVELOPMENT FOR INDUSTRIAL SECTOR IN UGANDA (TVET-LEAD PROJECT)


Version 2

Implementing Agency: Ministry of Education, Science, Technology and Sports (MoESTS)/ Nakawa Vocational Training Institute (NVTI)

Dated 30, July, 2015

Target Group: Instructors and management staff in NVTI, Stakeholders of relevant Business, Vocational, Technical Education and Training (BTNET) institutes

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumption	Achievement	Remarks
Overall Goal NVTI becomes a Center of Excellence (CoE) ¹ which produces industrial human resource responding to the needs of the private sector.	1. At least 90% of the graduates obtain a job (including self-employment and apprenticeship) or enrolled in higher education in the relevant areas after completion of the diploma courses. 2. The number of companies which participate in upgrading course increased by 30%. 3. Activities to reflect the needs of the private sector in training are applied in 60% of the institutions which have been supported by NVTI.	1. Questionnaire survey results for private companies that employ NVTI graduates 2. Survey results on BTNET institutes	There is a certain number of private companies that employ NVTI graduates and NVTI has a list of them		
Project Purpose Capacity of NVTI for human resource development responding to the needs of the private sector is strengthened.	1. At least 85% of companies which have employed the graduates of NVTI's diploma courses (motor vehicle and electricity) are satisfied with their performance at least 4 out of five (5) score. 2. At least 85% of companies which have industrial attachment of NVTI's diploma trainees (motor vehicle and electricity) are satisfied with their performance at least 4 out of five (5) score. 3. At least 90% of the company which send their workers for upgrading training are satisfied with the program at least 4 out of five (5) score. 4. 80% of planned action will be implemented.	1. Questionnaire survey results for NVTI graduates 2. Questionnaire survey results for participants of upgrading training	There are a certain number of private companies that participate in upgrading training in NVTI or employ NVTI graduates. And NVTI has lists of them		
Outputs					
Output 1 Diploma courses in motor vehicle and electricity are established.	1-1. A Public-Private Partnership working group (PPP-WG) ^{2,3} for developing diploma courses is established. 1-2. The curricula and assessment tools for the diploma courses drafted by the working group are officially approved. 1-3. 80% of the instructors who participated in training of trainers (TOT) achieve at least 80% of skills and knowledge acquired from the training contents. 1-4. 30 private companies participate in reviewing and evaluating the new diploma courses.	1. Project progress/completion reports 2. Project progress/completion reports 3. Training reports, Checklist for understanding on training contents, Project progress/completion reports 4. Project progress/completion reports	MoESTS and NVTI secures enough human resources and budget required for the Project implementation		
Output 2 Upgrading training in mechatronics is provided.	2-1. Survey on the training needs is conducted. 2-2. 80% of the instructors in TOT (master trainers) achieves at least 85% on the training contents. 2-3. At least 30 companies and 200 persons participate in the upgrading training. 2-4. At least 80% of participants are satisfied with the skills offered in the programme.	1. Survey report /number of companies visited 2. Training reports, Checklist for understanding on training contents, Project progress/completion reports 3. Project progress/completion reports	MoESTS and NVTI secures enough human resources and budget required for the Project implementation.		
Output 3 NVTI's management capacity is strengthened.	3-1. 80% of the planned activities for promoting public private partnership are implemented. 3-2. 80% of the upgrading training is implemented according to the action plan. 3-3. At least 15 activities in at least 2 types of vulnerable groups are conducted to promote their participation in NVTI's training. 3-4. At least 90% of NVTI's trainees participates in employment and entrepreneurship support activities (seminar, workshop, consultation).	1. NVTI activity report 2,3,4. NVTI activity report, Project progress/completion reports	NVTI secures enough human resources and budget required for the Project implementation.		
Output 4 Function of NVTI to support other BTNET institutes is strengthened.	4-1. At least 15 activities to support other BTNET institutes are conducted. 4-2. 80% of the participants in the activities conducted by NVTI are satisfied.	1. NVTI activity report, Project progress/completion reports 2. Report from the participating BTNET institutes	There are a certain number of BTNET institutes which can participate in activities conducted by NVTI		

Activities	Inputs		Pre-Conditions
	The Japanese Side	The Ugandan Side	
0-1. Implement a project baseline survey 0-2. Monitor the project activities regularly 0-3. 5S activities are firmly in place 1-1. Clarify the terms of reference and activities of the working group 1-2. Establish a Public-Private Partnership working group for developing diploma courses and upgrading course 1-3. Develop the regulations of the diploma courses 1-4. Develop the curricula, assessment tool and educational materials of the diploma courses 1-5. Identify and install necessary equipment 1-6. Assign additional instructors for diploma programme 1-7. Implement training for the assigned instructors 1-8. Implement the diploma courses 1-9. Monitor and evaluate the diploma courses 1-10. Revise the programme based on the results 1-9. 1-11. Recognize the training within UVQF and/or IQF 2-1. Analyze the training needs of the private sector 2-2. Develop training contents, materials and assessment tool for upgrading training 2-3. Select instructors (electronics, machining) 2-4. Identify and install necessary equipment 2-5. Implement TOT for the instructors 2-6. Implement upgrading training 2-7. Monitor and evaluate the upgrading training 2-8. Revised the training programme based on the results of 2-6 2-9. Recognize the training within UVQF and/or IQF 3-1. Develop a plan of actions (strengthening of public private partnership, planning and management of upgrading training, promotion of equitable access, strengthening of employment support activities) for the Committee on Institute Management 3-2. Develop the TORs 3-3. Assign persons in charge for each of the planned activities (3-1) and provide guidance as needed 3-4. Implement public private partnership through activities (e.g. including training needs assessment, industrial attachment programs, joint curriculum development and joint evaluation of the training) 3-5. Implement and manage upgrading and tailor made training program 3-6. Conduct activities for promoting participation of vulnerable groups (e.g. women and persons with disabilities) in NVTI's training 3-7. Implement employment and entrepreneurship support to NVTI's trainees 3-8. Review the implementation and revised the plan (if necessary) 4-1. Identify activities ⁵ or utilizing NVTI's knowledge and experience to support other BTNET institutes (Vocational Training Institutes and Uganda Technical Colleges) 4-2. Develop a plan for conducting the activities (4-1) 4-3. Conduct the activities based on the plan (4-2) 4-4. Monitor the activities conducted in other BTNET institutes after participating in the activities (4-3) and provide support as required	a) Long-term experts: 3 persons in the fields such as Chief Adviser/Public-Private Partnership, Curriculum Development/Human Resource Development Management, Project Coordination/Monitoring and Evaluation b) Short-term experts: enough number of experts in the fields such as Motor Vehicle (Automobile), Electricity, Electronics and Machining c) Short-term training: In Japan or other countries d) Machinery and equipment necessary items for newly introduced diploma courses and upgrading training courses e) Part of the Project implementation cost	a) Services of MoESTS's counterpart personnel and administrative personnel b) Suitable office space with necessary equipment for the JICA Experts and Third Country Experts c) Supply or replacement of machinery, equipment, instruments, vehicles, tools, spare parts and any other materials necessary for the implementation of the Project other than the equipment provided by JICA d) Information as well as support in obtaining medical service e) Credentials or identification cards f) Available data (including maps and photographs) and information related to the Project g) Running expenses necessary for the implementation of the Project h) Expenses necessary for transportation within Uganda of the equipment well as for the installation, operation and maintenance thereof i) Necessary facilities to the JICA experts for the remittance as well as utilization of the funds introduced into Uganda from Japan in connection with the implementation of the Project	1) Project implementation structure is maintained after NVTI is developed into a vocational college 2) Establishment of new diploma courses in NVTI is officially approved before the Project starts <div style="text-align: center;"> <p><Issues and countermeasures></p>  </div>

1. The definition of CoE is mentioned in SKILLING UGANDA as follows:

A concept for Centres of Excellence (CoEs) will be developed based on experiences in other countries. CoEs are places where technical expertise (experienced staff, assisted by outside experts) is concentrated for particular occupations. The CoEs will be located close to the relevant industries and labour markets to facilitate a close relationship between training and the world of work. Where possible, CoEs will be managed by or in cooperation with industry (or industry associations). Cooperation will be explored in the construction industry, which has expressed its desire to foster skills development in its sector.

2. The PPP working group consists of members from the private sector and relevant organizations, DIT, NVTI, and JICA experts.

3. As for the activities of the working group (WG), WG will recommend or propose to the Board of Governance (BOG) of NVTI for approval.

4. The regulation contains admission requirement, number of students in the courses, fee of the courses and so on.

5. For example, tentative ideas include workshops on sharing NVTI's training management methods and training of management staff of other BTNET institutes at NVTI through their participation in the Project activities.

Project Design Matrix

Project Title: TVET-LEADING INSTITUTION'S EXPANSION OF HUMAN RESOURCE AND SKILLED WORKFORCE DEVELOPMENT FOR INDUSTRIAL SECTOR IN UGANDA (TVET-LEAD PROJECT)

Version 3

Implementing Agency: Ministry of Education and Sports (MoES)/ Nakawa Vocational Training Institute (NVTI)


Dated 22, March, 2017

Target Group: Instructors and management staff in NVTI, Stakeholders of relevant Business, Vocational, Technical Education and Training (BTVE) institutes

Period of Project: May 2015 -February 2020 (5 years)

Project Site: NVTI

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumption	Achievement	Remarks
Overall Goal					
NVTI becomes a Center of Excellence (CoE) ¹ which produces industrial human resource responding to the needs of the private sector.	1. At least 90% of the graduates obtain a job (including self-employment and apprenticeship) or enrolled in higher education in the relevant areas after completion of the diploma courses. 2. The number of companies which participate in upgrading course increased by 30%. 3. Activities to reflect the needs of the private sector in training are applied in 60% of the institutions which have been supported by NVTI.	1. Questionnaire survey results for private companies that employ NVTI graduates 2. Survey results on BTVE institutes	There is a certain number of private companies that employ NVTI graduates and NVTI has a list of them		
Project Purpose					
Capacity of NVTI for human resource development responding to the needs of the private sector is strengthened.	1. At least 85% of companies which have employed the graduates of NVTI's diploma courses (motor vehicle and electricity) are satisfied with their performance at least than 4 out of five (5) score. 2. At least 85% of companies which have industrial attachment of NVTI's diploma trainees (motor vehicle and electricity) are satisfied with their performance at least 4 out of five (5) score. 3. At least 90% of the company which send their workers for upgrading training are satisfied with the program at least 4 out of five (5) score. 4. 80% of planed action will be implemented.	1. Questionnaire survey results for NVTI graduates 2. Questionnaire survey results for participats of upgrading training	There are a certain number of private companies that participate in upgrading training in NVTI or employ NVTI graduates. And NVTI has lists of them		
Outputs					
Output 1					
Diploma courses in motor vehicle and electricity are established.	1-1. A Public-Private Partnership working group (PPP-WG) ^{2,3} for developing diploma courses is established. 1-2. The curricula and assessment tools for the diploma courses drafted by the working group are officially approved. 1-3. 80% of the instructors who participated in training of trainers (TOT) achieve at least 80% of skills and knowledge acquired from the training contents. 1-4. 30 private companies participate in reviewing and evaluating the new diploma courses.	1. Project progress/completion reports 2. Project progress/completion reports 3. Training reports, Checklist for understanding on training contents, Project progress/completion reports 4. Project progress/completion reports	MoESTS and NVTI secures enough human resources and budget required for the Project implementation		
Output 2					
Upgrading training in Mechatronics is provided.	2-1. Survey on the training needs is conducted. 2-2. 80% of the instructors in TOT (master trainers) achieves at least 85% on the training contents. 2-3. At least 30 companies and 200 persons participate in the upgrading training. 2-4 At least 80% of participants are satisfied with the skills offered in the programme.	1. Survey report /number of companie visted 2. Training reports, Checklist for understanding on training contents, Project progress/completion reports 3. Project progress/completion reports	MoESTS and NVTI secures enough human resources and budget required for the Project implementation.		
Output 3					
NVTI's management capacity is strengthened.	3-1. Management Committees re-organized in line with strategic plan 3-2(1) At least 3 trainings per year are conducted for staff and instructors 3-2 (2) Monitoring and evaluation tools will be developed. 3-3(1) Progress report of strategic plan produced 3-3 (2) Monitoring and evaluation will be conducted semisterly 3-4 At least one upgrading training per department implement according to guideline. 3-5 At least 80% of NVTI's trainees satisfy with employment and entrepreneurship support activities (seminar, workshop, consultation, industrial attachment e.t.c). 3-6 At least 2 activities for promoting public private partnership are implemented in each department per year	1. NVTI activity report 2,3,4. NVTI activity report, Project progress/completion reports	NVTI secures enough human resources and budget required for the Project implementation.		
Output 4					
Function of NVTI to support other BTVE institutes is strengthened.	4-1. At least 15 activities to support other BTVE institutes are conducted. 4-2. 80% of the participants in the activities conducted by NVTI are satisfied.	1. NVTI activity report, Project progress/completion reports 2. Report from the participating BTVE institutions	There are a certain number of BTVE institutes which can participate in activities conducted by NVTI		

Activities	Inputs		Pre-Conditions
	The Japanese Side	The Ugandan Side	
0-1. Implement a project baseline survey 0-2. Monitor the project activities regularly 0-3. 5S activities are firmly in place 1-1. Clarify the terms of reference and activities of the working group 1-2. Establish a Public-Private Partnership working group for developing diploma courses and upgrading course 1-3. Develop the regulations of the diploma courses 1-4. Develop the curricula, assessment tool and educational materials of the diploma courses 1-5. Identify and install necessary equipment 1-6. Assign additional instructors for diploma programme 1-7. Implement training for the assigned instructors 1-8. Implement the diploma courses 1-9. Monitor and evaluate the diploma courses 1-10. Revise the programme based on the results 1-9. 1-11. Recognize the training within UVQF and/or IQF 2-1. Analyze the training needs of the private sector 2-2. Develop training contents, materials and assessment tool for upgrading training 2-3. Select instructors (electronics, machining) 2-4. Identify and install necessary equipment 2-5. Implement TOT for the instructors 2-6. Implement upgrading training 2-7. Monitor and evaluate the upgrading training 2-8 Revised the training programme based on the results of 2-6 2-9 Recognize the training within UVQF and/or IQF 3-1. Modify TOR of management committees in line with NVTI strategic plan 3-2. Conduct staff training to build capacity to implementing and monitoring of strategic plan 3-3. Implement selected activities in strategic plan 3-4. Strengthen managing of upgrading and tailor made training program (Output 2: 6/2-7) 3-5. Strengthening employment and entrepreneurship support to NVTI's trainees 3-6. Strengthen public private partnership in all activities 4-1. Identify activities ⁵ or utilizing NVTI's knowledge and experience to support other BTVE institutes (Vocational Training Institutes and Uganda Technical Colleges) 4-2. Develop a plan for conducting the activities (4-1) 4-3. Conduct the activities based on the plan (4-2) 4-4. Monitor the activities conducted in other BTVE institutes after participating in the activities (4-3) and provide support as required	a) Long-term experts: 3 persons in the fields such as Chief Adviser/Public-Private Partnership, Curriculum Development/Human Resource Development Management, Project Coordination/Monitoring and Evaluation b) Short-term experts: enough number of experts in the fields such as Motor Vehicle (Automobile), Electricity, Electronics and Machining c) Short-term training: In Japan or other countries d) Machinery and equipment necessary items for newly introduced diploma courses and upgrading training courses e) Part of the Project implementation cost	a) Services of MoESTS's counterpart personnel and administrative personnel b) Suitable office space with necessary equipment for the JICA Experts and Third Country Experts c) Supply or replacement of machinery, equipment, instruments, vehicles, tools, spare parts and any other materials necessary for the implementation of the Project other than the equipment provided by JICA d) Information as well as support in obtaining medical service e) Credentials or identification cards f) Available data (including maps and photographs) and information related to the Project g) Running expenses necessary for the implementation of the Project h) Expenses necessary for transportation within Uganda of the equipment well as for the installation, operation and maintenance thereof i) Necessary facilities to the JICA experts for the remittance as well as utilization of the funds introduced into Uganda from Japan in connection with the implementation of the Project	1) Project implementation structure is maintained after NVTI is developed into a vocational college 2) Establishment of new diploma courses in NVTI is officially approved before the Project starts <div style="text-align: center;"> <p><Issues and countermeasures></p>  </div>

1. The definition of CoE is mentioned in SKILLING UGANDA as follows:

A concept for Centres of Excellence (CoEs) will be developed based on experiences in other countries. CoEs are places where technical expertise (experienced staff, assisted by outside experts) is concentrated for particular occupations. The CoEs will be located close to the relevant industries and labour markets to facilitate a close relationship between training and the world of work. Where possible, CoEs will be managed by or in cooperation with industry (or industry associations). Cooperation will be explored in the construction industry, which has expressed its desire to foster skills development in its sector.

2. The PPP working group consists of members from the private sector and relevant organizations, DIT, NVTI, and JICA experts.

3. As for the activities of the working group (WG), WG will recommend or propose to the Board of Governance (BOG) of NVTI for approval.

4. The regulation contains admission requirement, number of students in the courses, fee of the courses and so on.

5. For example, tentative ideas include workshops on sharing NVTI's training management methods and training of management staff of other BTVE institutes at NVTI through their participation in the Project activities.

Project Design Matrix

Project Title: TVET-LEADING INSTITUTION'S EXPANSION OF HUMAN RESOURCE AND SKILLED WORKFORCE DEVELOPMENT FOR INDUSTRIAL SECTOR IN UGANDA (TVET-LEAD PROJECT)

Version 4

Implementing Agency: Ministry of Education and Sports (MoES)/ Nakawa Vocational Training Institute (NVTI)


Dated 22, March, 2018

Target Group: Instructors and management staff in NVTI, Stakeholders of relevant Business, Vocational, Technical Education and Training (BTVE) institutions

Period of Project: May 2015 -February 2020 (5 years)

Project Site: NVTI

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumption	Achievement	Remarks
Overall Goal					
NVTI becomes a Center of Excellence (CoE) ¹ which produces industrial human resource responding to the needs of the private sector.	1. At least 90% of the graduates obtain a job (including self-employment and apprenticeship) or enrolled in higher education in the relevant areas after completion of the diploma courses. 2. The number of companies which participate in upgrading course increased by 30%. 3. Activities involving private sector in training are applied in 60% of the institutions which have been supported by NVTI.	1. Tracer study of graduates 2. Annual training report 3. Survey results on BTVE institutes	There is a certain number of private companies that employ NVTI graduates and NVTI has a list of them		
Project Purpose					
Capacity of NVTI for human resource development responding to the needs of the private sector is strengthened.	1. At least 85% of companies which have industrial attachment of NVTI's diploma trainees (motor vehicle and electricity) are satisfied with their performance at least 4 out of five (5) score. 2. At least 90% of the company which send their workers for upgrading training are satisfied with the program at least 4 out of five (5) score. 3. 70% of planned action at NVTI involving private sector will be implemented.	1. Reports for industrial attachment. 2. Survey results from companies for participants of upgrading training 3. Number of activities implemented out of the annual plan.	There are a certain number of private companies that participate in upgrading training in NVTI or employ NVTI graduates. And NVTI has lists of them		
Outputs					
Output 1 Vocational Diploma courses in motor vehicle and electricity are established.	1-1. A Public-Private Partnership working group (PPP-WG) ^{2,3} for developing diploma courses is established. 1-2. The curricula and assessment tools for the diploma courses drafted by the working group are officially approved. 1-3. 80% of the instructors who participated in training of trainers (TOT) achieve at least 70% of skills and knowledge acquired from the training contents.	1. Project progress/completion reports 2. Project progress/completion reports 3. Training reports, Checklist for understanding on training contents, Project progress/completion reports 4. Project progress/completion reports	MoES and NVTI secures enough human resources and budget required for the Project implementation		
Output 2 Upgrading training in Mechatronics is provided.	2-1. Survey on the training needs is conducted. 2-2. 80% of the instructors in training of trainers (TOT) achieves at least 85% on the training contents. 2-3. At least 30 companies and 200 persons participate in the upgrading training. 2-4. At least 80% of participants are satisfied with the skills offered in the programme.	1. Survey report /number of companies visited 2. Training reports, Checklist for understanding on training contents, Project progress/completion reports 3. Project progress/completion reports	MoES and NVTI secures enough human resources and budget required for the Project implementation.		
Output 3 NVTI's management capacity is strengthened.	3-1. Management Committees re-organized in line with strategic plan 3-2. Monitoring and evaluation tools are developed. 3-3. At least one upgrading training per department implemented according to guideline. 3-4. At least 80% of NVTI's trainees are satisfied with employment and entrepreneurship support activities	1. NVTI activity report 2,3,4. NVTI activity report, Project progress/completion reports	NVTI secures enough human resources and budget required for the Project implementation.		
Output 4 Function of NVTI to support other BTVE institutions is strengthened.	4-1. At least 15 activities to support other BTVE institutes are conducted. 4-2. 80% of the participants in the activities conducted by NVTI are satisfied.	1. NVTI activity report, Project progress/completion reports 2. Report from the participating BTVE institutions	There are a certain number of BTVE institutes which can participate in activities conducted by NVTI		

Activities	Inputs		Pre-Conditions
	The Japanese Side	The Ugandan Side	
0-1. Implement a project baseline survey 0-2. Monitor the project activities regularly 0-3. 5S activities are firmly in place 1-1. Clarify the terms of reference and activities of the working group 1-2. Establish a Public-Private Partnership working group for developing diploma courses and upgrading course 1-3. Develop the regulations of the diploma courses 1-4. Develop the curricula, assessment tool and educational materials of the diploma courses 1-5. Identify and install necessary equipment 1-6. Assign additional instructors for diploma programme 1-7. Implement training for the assigned instructors 1-8. Implement the diploma courses 1-9. Monitor and evaluate the diploma courses 1-10. Revise the diploma curriculum based on the results 1-9. 1-11. Recognize the diploma curriculum under level 4 of UVQF 2-1. Analyze the training needs of the private sector 2-2. Develop training modules, materials and assessment tool for upgrading training 2-3. Select instructors from Electronics, Machining and Electricity 2-4. Identify and install necessary equipment 2-5. Implement TOT for the instructors 2-6. Implement upgrading training 2-7. Monitor and evaluate the upgrading training 2-8. Revised the training modules based on the results of 2-6 2-9. Recognize the training modules under level 4 of UVQF 3-1. Modify TOR of management committees in line with NVTI strategic plan 3-2. Conduct staff training to build capacity to implementing and monitoring of strategic plan 3-3. Implement selected activities in strategic plan 3-4. Improve the management of upgrading and tailor made training program (Output 2: 2-6/2-7) 3-5. Introduce employment and entrepreneurship support to NVTI's trainees 4-1. Identify activities ⁵ or utilizing NVTI's knowledge and experience to support other BTVE institutes (Vocational Training Institutes and Uganda Technical Colleges) 4-2. Develop a plan for conducting the activities (4-1) 4-3. Conduct the activities based on the plan (4-2) 4-4. Monitor the activities conducted in other BTVE institutions after participating in the activities (4-3) and provide support as required	a) Long-term experts: -Chief Advisor/Public-Private Partnership, -Curriculum Development/human Resource Development Management, -Electricity, -Supervision of workshop construction -Project Coordination/Monitoring and Evaluation b) Short-term experts: enough number of experts in the fields such as Motor Vehicle (Automobile), Electricity, Electronics and Machining c) Short-term training: In Japan or other countries d) Machinery and equipment necessary items for newly introduced diploma courses and upgrading training courses e) Part of the Project implementation cost f) Construction of Workshop	a) Services of MoESTS's counterpart personnel and administrative personnel b) Suitable office space with necessary equipment for the JICA Experts and Third Country Experts c) Supply or replacement of machinery, equipment, instruments, vehicles, tools, spare parts and any other materials necessary for the implementation of the Project other than the equipment provided by JICA d) Information as well as support in obtaining medical service e) Credentials or identification cards f) Available data (including maps and photographs) and information related to the Project g) Running expenses necessary for the implementation of the Project h) Expenses necessary for transportation within Uganda of the equipment well as for the installation, operation and maintenance thereof i) Necessary facilities to the JICA experts for the remittance as well as utilization of the funds introduced into Uganda from Japan in connection with the implementation of the Project	1) Project implementation structure is maintained after NVTI is developed into a vocational college 2) Establishment of new diploma courses in NVTI is officially approved before the Project starts <div style="text-align: center;"> <Issues and countermeasures>  </div>

1. The definition of CoE is mentioned in SKILLING UGANDA as follows:
 A concept for Centres of Excellence (CoEs) will be developed based on experiences in other countries. CoEs are places where technical expertise (experienced staff, assisted by outside experts) is concentrated for particular occupations. The CoEs will be located close to the relevant industries and labour markets to facilitate a close relationship between training and the world of work. Where possible, CoEs will be managed by or in cooperation with industry (or industry associations). Cooperation will be explored in the construction industry, which has expressed its desire to foster skills development in its sector.

2. The PPP working group consists of members from the private sector and relevant organizations, DIT, NVTI, and JICA experts.

3. As for the activities of the working group (WG), WG will recommend or propose to the Board of Governance (BOG) of NVTI for approval.

4. The regulation contains admission requirement, number of students in the courses, fee of the courses and so on.

5. For example, tentative ideas include workshops on sharing NVTI's training management methods and training of management staff of other BTVE institutes at NVTI through their participation in the Project activities.

Project Design Matrix

Project Title: TVET-LEADING INSTITUTION'S EXPANSION OF HUMAN RESOURCE AND SKILLED WORKFORCE DEVELOPMENT FOR INDUSTRIAL SECTOR IN UGANDA (TVET-LEAD PROJECT)

Version 5

Implementing Agency: Ministry of Education and Sports (MoES)/ Nakawa Vocational Training Institute (NVTI)


Dated September, 2019

Target Group: Instructors and management staff in NVTI, Stakeholders of relevant Business, Vocational, Technical Education and Training (BTVE) institutions

Period of Project: March 2015 - September 2020 (5.5 years)

Project Site: NVTI

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumption	Achievement	Remarks
Overall Goal					
NVTI becomes a Center of Excellence (CoE) ¹ which produces industrial human resource responding to the needs of the private sector.	1. At least 90% of the graduates obtain a job (including self-employment and apprenticeship) or enrolled in higher education in the relevant areas after completion of the diploma courses. 2. The number of companies which participate in upgrading course increased by 30%. 3. Activities involving private sector in training are applied in 60% of the institutions which have been supported by NVTI.	1. Tracer study of graduates 2. Annual training report 3. Survey results on BTVE institutes	There is a certain number of private companies that employ NVTI graduates and NVTI has a list of them		
Project Purpose					
Capacity of NVTI for human resource development responding to the needs of the private sector is strengthened.	1. At least 85% of companies which have industrial attachment of NVTI's diploma trainees (motor vehicle and electricity) are satisfied with their performance at least 4 out of five (5) score. 2. At least 90% of the company which send their workers for upgrading training are satisfied with the program at least 4 out of five (5) score. 3. 80% of planned action will be implemented.	1. Reports for industrial attachment. 2. Survey results from companies for participants of upgrading training 3. Number of activities implemented out of the annual plan.	There are a certain number of private companies that participate in upgrading training in NVTI or employ NVTI graduates. And NVTI has lists of them		
Outputs					
Output 1 Vocational Diploma courses in motor vehicle and electricity are established.	1-1. A Public-Private Partnership working group (PPP-WG) ^{2,3} for developing diploma courses is established. 1-2. The curricula and assessment tools for the diploma courses drafted by the working group are officially approved. 1-3. 80% of the instructors who participated in training of trainers (TOT) achieve at least 70% of skills and knowledge acquired from the training contents.	1. Project progress/completion reports 2. Project progress/completion reports 3. Training reports, Checklist for understanding on training contents, Project progress/completion reports 4. Project progress/completion reports	MoES and NVTI secures enough human resources and budget required for the Project implementation		
Output 2 Upgrading training in Mechatronics is provided.	2-1. Survey on the training needs is conducted. 2-2. 80% of the instructors in training of trainers (TOT) achieves at least 85% on the training contents. 2-3. At least 30 companies and 200 persons participate in the upgrading training. 2-4. At least 80% of participants are satisfied with the skills offered in the programme.	1. Survey report /number of companies visited 2. Training reports, Checklist for understanding on training contents, Project progress/completion reports 3. Project progress/completion reports	MoES and NVTI secures enough human resources and budget required for the Project implementation.		
Output 3 NVTI's management capacity is strengthened.	3-1. Management Committees re-organized in line with strategic plan 3-2. Monitoring and evaluation tools are developed. 3-3. At least one upgrading training per department implemented according to guideline. 3-4. At least 80% of NVTI's trainees are satisfied with employment and entrepreneurship support activities	1. NVTI activity report 2,3,4. NVTI activity report, Project progress/completion reports	NVTI secures enough human resources and budget required for the Project implementation.		
Output 4 Function of NVTI to support other BTVE institutions is strengthened.	4-1. At least 15 activities to support other BTVE institutes are conducted. 4-2. 80% of the participants in the activities conducted by NVTI are satisfied.	1. NVTI activity report, Project progress/completion reports 2. Report from the participating BTVE institutions	There are a certain number of BTVE institutes which can participate in activities conducted by NVTI		

Activities	Inputs		Pre-Conditions
	The Japanese Side	The Ugandan Side	
0-1. Implement a project baseline survey 0-2. Monitor the project activities regularly 0-3. 5S activities are firmly in place 1-1. Clarify the terms of reference and activities of the working group 1-2. Establish a Public-Private Partnership working group for developing diploma courses and upgrading course 1-3. Develop the regulations of the diploma courses 1-4. Develop the curricula, assessment tool and educational materials of the diploma courses 1-5. Identify and install necessary equipment 1-6. Assign additional instructors for diploma programme 1-7. Implement training for the assigned instructors 1-8. Implement the diploma courses 1-9. Monitor and evaluate the diploma courses 1-10. Revise the diploma curriculum based on the results 1-9. 1-11. Recognize the diploma curriculum under level 4 of UVQF 2-1. Analyze the training needs of the private sector 2-2. Develop training modules, materials and assessment tool for upgrading training 2-3. Select instructors from Electronics, Machining and Electricity 2-4. Identify and install necessary equipment 2-5. Implement TOT for the instructors 2-6. Implement upgrading training 2-7. Monitor and evaluate the upgrading training 2-8. Revised the training modules based on the results of 2-6 2-9. Recognize the training modules under level 4 of UVQF 3-1. Modify TOR of management committees in line with NVTI strategic plan 3-2. Conduct staff training to build capacity to implementing and monitoring of strategic plan 3-3. Implement selected activities in strategic plan 3-4. Improve the management of upgrading and tailor made training program (Output 2: 2-6/2-7) 3-5. Introduce employment and entrepreneurship support to NVTI's trainees 4-1. Identify activities ⁵ or utilizing NVTI's knowledge and experience to support other BTVE institutes (Vocational Training Institutes and Uganda Technical Colleges) 4-2. Develop a plan for conducting the activities (4-1) 4-3. Conduct the activities based on the plan (4-2) 4-4. Monitor the activities conducted in other BTVE institutes after participating in the activities (4-3) and provide support as required	a) Long-term experts: -Chief Adviser/Public-Private Partnership, -Curriculum Development/Human Resource Development Management, -Electricity, -Supervision of workshop construction -Project Coordination/Monitoring and Evaluation b) Short-term experts: enough number of experts in the fields such as Motor Vehicle (Automobile), Electricity, Electronics and Machining c) Short-term training: In Japan or other countries d) Machinery and equipment necessary items for newly introduced diploma courses and upgrading training courses e) Part of the Project implementation cost f) Construction of Workshop	a) Services of MoESTS's counterpart personnel and administrative personnel b) Suitable office space with necessary equipment for the JICA Experts and Third Country Experts c) Supply or replacement of machinery, equipment, instruments, vehicles, tools, spare parts and any other materials necessary for the implementation of the Project other than the equipment provided by JICA d) Information as well as support in obtaining medical service e) Credentials or identification cards f) Available data (including maps and photographs) and information related to the Project g) Running expenses necessary for the implementation of the Project h) Expenses necessary for transportation within Uganda of the equipment well as for the installation, operation and maintenance thereof i) Necessary facilities to the JICA experts for the remittance as well as utilization of the funds introduced into Uganda from Japan in connection with the implementation of the Project	1) Project implementation structure is maintained after NVTI is developed into a vocational college 2) Establishment of new diploma courses in NVTI is officially approved before the Project starts <div style="text-align: center;"> <p><Issues and countermeasures></p>  </div>

1. The definition of CoE is mentioned in SKILLING UGANDA as follows:

A concept for Centres of Excellence (CoEs) will be developed based on experiences in other countries. CoEs are places where technical expertise (experienced staff, assisted by outside experts) is concentrated for particular occupations. The CoEs will be located close to the relevant industries and labour markets to facilitate a close relationship between training and the world of work. Where possible, CoEs will be managed by or in cooperation with industry (or industry associations). Cooperation will be explored in the construction industry, which has expressed its desire to foster skills development in its sector.

2. The PPP working group consists of members from the private sector and relevant organizations, DIT, NVTI, and JICA experts.

3. As for the activities of the working group (WG), WG will recommend or propose to the Board of Governance (BOG) of NVTI for approval.

4. The regulation contains admission requirement, number of students in the courses, fee of the courses and so on.

5. For example, tentative ideas include workshops on sharing NVTI's training management methods and training of management staff of other BTVE institutes at NVTI through their participation in the Project activities.

Project Design Matrix

Project Title: TVET-LEADING INSTITUTION'S EXPANSION OF HUMAN RESOURCE AND SKILLED WORKFORCE DEVELOPMENT FOR INDUSTRIAL SECTOR IN UGANDA (TVET-LEAD PROJECT)

Version 6

Implementing Agency: Ministry of Education and Sports (MoES)/ Nakawa Vocational Training Institute (NVTI)


Dated June, 2020

Target Group: Instructors and management staff in NVTI, Stakeholders of relevant Business, Vocational, Technical Education and Training (BTJET) institutions

Period of Project: March 2015 - March 2021 (6 years)

Project Site: NVTI

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumption	Achievement	Remarks
Overall Goal NVTI becomes a Center of Excellence (CoE) ¹ which produces industrial human resource responding to the needs of the private sector.	1. At least 90% of the graduates obtain a job (including self-employment and apprenticeship) or enrolled in higher education in the relevant areas after completion of the diploma courses. 2. The number of companies which participate in upgrading course increased by 30%. 3. Activities involving private sector in training are applied in 60% of the institutions which have been supported by NVTI.	1. Tracer study of graduates 2. Annual training report 3. Survey results on BTJET institutes	There is a certain number of private companies that employ NVTI graduates and NVTI has a list of them		
Project Purpose Capacity of NVTI for human resource development responding to the needs of the private sector is strengthened.	1. At least 85% of companies which have industrial attachment of NVTI's diploma trainees (motor vehicle and electricity) are satisfied with their performance at least 4 out of five (5) score. 2. At least 90% of the company which send their workers for upgrading training are satisfied with the program at least 4 out of five (5) score. 3. 80% of planned action will be implemented.	1. Reports for industrial attachment. 2. Survey results from companies for participants of upgrading training 3. Number of activities implemented out of the annual plan.	There are a certain number of private companies that participate in upgrading training in NVTI or employ NVTI graduates. And NVTI has lists of them		
Outputs					
Output 1 Vocational Diploma courses in motor vehicle and electricity are established.	1-1. A Public-Private Partnership working group (PPP-WG) ^{2,3} for developing diploma courses is established. 1-2. The curricula and assessment tools for the diploma courses drafted by the working group are officially approved. 1-3. 80% of the instructors who participated in training of trainers (TOT) achieve at least 70% of skills and knowledge acquired from the training contents.	1. Project progress/completion reports 2. Project progress/completion reports 3. Training reports, Checklist for understanding on training contents, Project progress/completion reports 4. Project progress/completion reports	MoES and NVTI secures enough human resources and budget required for the Project implementation		
Output 2 Upgrading training in Mechatronics is provided.	2-1. Survey on the training needs is conducted. 2-2. 80% of the instructors in training of trainers (TOT) achieves at least 85% on the training contents. 2-3. At least 30 companies and 200 persons participate in the upgrading training. 2-4. At least 80% of participants are satisfied with the skills offered in the programme.	1. Survey report/number of companies visited 2. Training reports, Checklist for understanding on training contents, Project progress/completion reports 3. Project progress/completion reports	MoES and NVTI secures enough human resources and budget required for the Project implementation.		
Output 3 NVTI's management capacity is strengthened.	3-1. Management Committees re-organized in line with strategic plan 3-2. Monitoring and evaluation tools are developed. 3-3. At least one upgrading training per department implemented according to guideline. 3-4. At least 80% of NVTI's trainees are satisfied with employment and entrepreneurship support activities	1. NVTI activity report 2,3,4. NVTI activity report, Project progress/completion reports	NVTI secures enough human resources and budget required for the Project implementation.		
Output 4 Function of NVTI to support other BTJET institutions is strengthened.	4-1. At least 15 activities to support other BTJET institutes are conducted. 4-2. 80% of the participants in the activities conducted by NVTI are satisfied.	1. NVTI activity report, Project progress/completion reports 2. Report from the participating BTJET institutions	There are a certain number of BTJET institutes which can participate in activities conducted by NVTI		

Activities	Inputs		Pre-Conditions
	The Japanese Side	The Ugandan Side	
0-1. Implement a project baseline survey 0-2. Monitor the project activities regularly 0-3. SS activities are firmly in place 1-1. Clarify the terms of reference and activities of the working group 1-2. Establish a Public-Private Partnership working group for developing diploma courses and upgrading course 1-3. Develop the regulations of the diploma courses 1-4. Develop the curricula, assessment tool and educational materials of the diploma courses 1-5. Identify and install necessary equipment 1-6. Assign additional instructors for diploma programme 1-7. Implement training for the assigned instructors 1-8. Implement the diploma courses 1-9. Monitor and evaluate the diploma courses 1-10. Revise the diploma curriculum based on the results 1-9. 1-11. Recognize the diploma curriculum under level 4 of UVQF 2-1. Analyze the training needs of the private sector 2-2. Develop training modules, materials and assessment tool for upgrading training 2-3. Select instructors from Electronics, Machining and Electricity 2-4. Identify and install necessary equipment 2-5. Implement TOT for the instructors 2-6. Implement upgrading training 2-7. Monitor and evaluate the upgrading training 2-8. Revised the training modules based on the results of 2-6 2-9. Recognize the training modules under level 4 of UVQF 3-1. Modify TOR of management committees in line with NVTI strategic plan 3-2. Conduct staff training to build capacity to implementing and monitoring of strategic plan 3-3. Implement selected activities in strategic plan 3-4. Improve the management of upgrading and tailor made training program (Output 2: 2-6/2-7) 3-5. Introduce employment and entrepreneurship support to NVTI's trainees 4-1. Identify activities ⁵ or utilizing NVTI's knowledge and experience to support other BTJET institutes (Vocational Training Institutes and Uganda Technical Colleges) 4-2. Develop a plan for conducting the activities (4-1) 4-3. Conduct the activities based on the plan (4-2) 4-4. Monitor the activities conducted in other BTJET institutions after participating in the activities (4-3) and provide support as required	a) Long-term experts: -Chief Adviser/Public-Private Partnership, -Curriculum Development/Human Resource Development Management, -Electricity, -Supervision of workshop construction -Project Coordination/Monitoring and Evaluation b) Short-term experts: enough number of experts in the fields such as Motor Vehicle (Automobile), Electricity, Electronics and Machining c) Short-term training: in Japan or other countries d) Machinery and equipment necessary items for newly introduced diploma courses and upgrading training courses e) Part of the Project implementation cost f) Construction of Workshop	a) Services of MoESTS's counterpart personnel and administrative personnel b) Suitable office space with necessary equipment for the JICA Experts and Third Country Experts c) Supply or replacement of machinery, equipment, instruments, vehicles, tools, spare parts and any other materials necessary for the implementation of the Project other than the equipment provided by JICA d) Information as well as support in obtaining medical service e) Credentials or identification cards f) Available data (including maps and photographs) and information related to the Project g) Running expenses necessary for the implementation of the Project h) Expenses necessary for transportation within Uganda of the equipment well as for the installation, operation and maintenance thereof i) Necessary facilities to the JICA experts for the remittance as well as utilization of the funds introduced into Uganda from Japan in connection with the implementation of the Project	1) Project implementation structure is maintained after NVTI is developed into a vocational college 2) Establishment of new diploma courses in NVTI is officially approved before the Project starts <div style="text-align: center;"> <p><Issues and countermeasures></p>  </div>

1. The definition of CoE is mentioned in SKILLING UGANDA as follows:
 A concept for Centres of Excellence (CoEs) will be developed based on experiences in other countries. CoEs are places where technical expertise (experienced staff, assisted by outside experts) is concentrated for particular occupations. The CoEs will be located close to the relevant industries and labour markets to facilitate a close relationship between training and the world of work. Where possible, CoEs will be managed by or in cooperation with industry (or industry associations). Cooperation will be explored in the construction industry, which has expressed its desire to foster skills development in its sector.
 2. The PPP working group consists of members from the private sector and relevant organizations, DIT, NVTI, and JICA experts.
 3. As for the activities of the working group (WG), WG will recommend or propose to the Board of Governance (BOG) of NVTI for approval.
 4. The regulation contains admission requirement, number of students in the courses, fee of the courses and so on.
 5. For example, tentative ideas include workshops on sharing NVTI's training management methods and training of management staff of other BTJET institutes at NVTI through their participation in the Project activities.