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Ex-post Evaluation Report on Program for the Improvement for the Automotive Vocational Training System

한국국제협력단

발간등록번호

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2013. 12



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The Korea International Cooperation Agency (KOICA) performs various types of evaluation in order to secure accountability and achieve better development results by learning.

KOICA conducts evaluations within different phases of projects and programs, such as ex-ante evaluations, interim evaluations, end-of-project evaluations, and ex-post evaluations. Moreover, sector evaluations, country program evaluations, thematic evaluations, and modality evaluations are also performed.

In order to ensure the independence of evaluation contents and results, a large amount of evaluation work is carried out by external evaluators. Also, the Evaluation Office directly reports evaluation results to the President of KOICA.

KOICA has a feedback system under which planning and project operation departments take evaluation findings into account in programming and implementation. Evaluation reports are widely disseminated to staffs and management within KOICA, as well as to stakeholders both in Korea and partner countries. All evaluation reports published by KOICA are posted on the KOICA website. (www.koica.go.kr)

This evaluation study was entrusted to Kyunghee University by KOICA for the purpose of independent evaluation research. The views expressed in this report do not necessarily reflect KOICA's position.

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Abbreviations

ADB	Asian Development Bank
TVET	Technical and Vocational Education and Training
EC	European Commission
CPS	Country Partnership Strategy
DAC	Development Assistance Committee
PVTD	Productivity and Vocational Training Department
TCT	Training Center for Trainers
GDP	Gross Domestic Product
RBA	Rights-Based Approach
ETES	Education, Training and Employment Sub-committee
CAS	Country Aid Strategy
NSSP	National Skill Standards Project
KOICA	Korea International Cooperation Agency
MKI	Mubarak-kohl Initiative
MDGs	Millenium Development Goals
ODA	Official Development Assistance
SDP	Skills Development Project
PDM	Project Design Matrix
PDMe	PDM for Evaluation
PMC	Project Management Consultancy
IECs	Industrial Education Colleges
PVE	Post-secondary Vocational Education
WB	World Bank
SCHRD	Supreme Council for Human Resource Development
SFD	Social Fund for Development
NQF	National Qualification Framework
NAQAAE	National Agency for Qualifications and Quality Assurance in Education

Evaluation Rating Result Table

1. Target Project for Ex-post Evaluation

Program for the Improvement for the Automotive Vocational Training System

2. Evaluation Results

A. Relevance : (3) Highly relevant

Major
Reasons

- This project is in line with CAS for Egypt, which was formulated after National Development Strategy of Egyptian Government and its emphasis on Technical and Vocational Education and Training.
- As compared with the scope of existing TVET projects is limited to a target agency, the project is relevant as a new venture to reform policy and institution of vocational training.

B. Effectiveness/Impact : (2) Partly negative

Major
Reasons

- Curriculum and textbooks developed in the project were used in KOICA support four vocational training centers because of the high suitability for industry demand.
- Capacity development program for vocational training managers was performed on one time basis.
- Although short-term courses in introduced profit-making activities were run by three vocational training centers, operating Center for automobile maintenance is not vitalized.
- Operating Training Center for Trainers is highly vitalized.
- Provided equipment is properly used, but additional training is needed to improve teaching ability of trained teachers.

C. Efficiency : (2) Partly negative

Major
Reasons

- The project is completed within planned budget in a timely manner.
- Although human resources (Dispatched experts) were injected for long period(88MM), all experts have limits to improve institutional improvement in detailed fields.

D. Sustainability : (2) Sustainable if the problem is solved

Major Reasons	<ul style="list-style-type: none">• Sustainability is relatively low due to limited financial support of the recipient government and lack of formal and organized programs, which is designed for sustainable capacity building of vocational training managers and training teachers.• Sustainability can be raised by follow-up management through proper technical assistance.
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3. Overall Evaluation Results : Successful



Summary



Summary

1. Target Project for Ex-post Evaluation

- Program for the Improvement of the Automotive Vocational Training System in Egypt

2. Main Results of Evaluation

- This is an ex-post evaluation for Program for the Improvement of the Automotive Vocational Training System in Egypt by KOICA from 2008 to 2012. The purpose of this evaluation is to analyse the outcome and sustainable effect of the project based on the criteria from OECD/DAC including relevance, effectiveness, efficiency, impact and sustainability.
- The primary purpose of this evaluation is to analyse success-factors or failure-factors and to draw lessons for future similar projects. Also, to suggest improvements for project system in terms of policy, and apply them to grant-type aid policy, and ultimately to contribute to the quality of aid. The main results of the evaluation are as follows.

□ Relevance

(1) Relevance with KOICA Aid Policy & Country Aid Strategy

- The project has high relevance with the purpose of KOICA's aid policy for education sector, the 'establishment of a foundation for vocational training'.

(2) Relevance with Recipient Country's Development Policy

- The project is correspondent to the National Development Strategy of Egyptian Government and its emphasis on Technical and Vocational Education and Training (hereinafter referred to as 'TVET').
- The project does not have high relevance with priority of Egyptian government despite high conformity to its development policy.

(3) Relevance of the Project plan

- The project aimed to build the effective automobile vocational training system by connecting past 3 projects.
- Compared with regular range of job training project being limited to individual job training organizations, the project is examined to be adequate for its new attempt to improve vocational training policy and system.

(4) Harmonization with Other Donor Agencies

- Major donor agencies (Germany, United Kingdom, World Bank, European Commission) focused on improving TVET system to be demand-driven, and executed various measures for cooperation with businesses.
- Hence, the project had not been overlapped with others. Whereas other donor agencies focused on improving the policies of TVET, the project was limited to a single institution in a single sector, automobile maintenance.

□ Effectiveness/Impact

(1) Evaluation of Output

- This project produced all the planned outputs such as new curriculum and textbooks, capacity building program for managers, Training Center for Teachers, equipment and training material by post-project management, providing equipment and enhancing capacity of teachers in KEZ.

(2) Achievement of the Project's Effectiveness

- Adequacy and Usefulness of New Curriculum
 - PVT, ITC, Egypt automobile engineering professor, auto industry figure, Korean professor and others participated in new curriculum development
 - According to the survey on teachers in vocational training centers, 82.9% of total respondents said that the adequacy of curriculum with its industrial market is highly positive, marking average 3.9 on a five-point scale.
 - Regrettably, use of developed curriculum is limited only to four auto maintenance vocational training centers supported by KOICA.
- Utilization of Developed Textbooks
 - 10 textbooks developed from the project have been used adequately. According to the survey on students and teachers of the four centers, 80.5% teachers and 74.9% students answered that they have used the textbook well, marking average 3.7 and 3.8 respectively on a five-point scale.
- Usefulness of Provided Equipment
 - As a result of a survey from students and teachers of the four centers, the equipment provided is well-utilized. 87.8% teachers and 91.5% students responded positively. Average marks are 4.1 and 4.3 respectively on a five-point scale.

- Vocational Training Manager Capacity Building
 - Two weeks invitation course for manager capacity building targeted on PVRD and vocational training centers was not as impressive as expected.
 - As a result of analysis of invitation program, contents for developing capability of managers in VTCs were insufficient.
 - For developing manager's capacity in VTCs, more systematic and constant capacity development system is needed rather than one-off seminar, workshop, and short courses.

- Operation of Training Center for Trainers (TCT)
 - TCT established by this project in Shoubra VTC is well-operated.
 - Education is in charge of four Master trainers recognized by PVTD. Aside from training teachers, the education are intended for engineering college students, workers in businesses to diversify its target.
 - TCT has a plan to become the training center targeting at training teachers in the Middle East in the future. For this purpose, the task is to continuously enhance capacities of the Master trainers.

- Operation of Profit-Making Business Model
 - This project provided technical advice in order to apply profit-making business model in existing VTCs (Short-term course and auto maintenance center) to other VTCS supported by KOICA.
 - All VTCs run short-term courses, but Embaba suspended operation of short-term course (2010) and auto maintenance center (2009).

- KEZ VTC Student Enrollment Rate
 - Kafr El Zayat Vocational training center opened in 2011 and has operated two engineering departments (automobile maintenance and body repair). There were 204 students showing 80 percent enrollment rate in two departments, which maximum number of students is 255.

- KEZ VTC Employment Rate of Graduates
 - KEZ job training center turned out first 67 graduates in 2013 (Automobile 43, Body repair 24). The 67 students' career is that 19 employed, 20 joined the army, and 28 went to university.
 - The employed 19 students mostly worked in private service centers.

- Capacity Building and Maintaining of Teachers in KEZ VTC
 - It is evaluated that capacity of teachers was developed by means of invitation of trainees, expert dispatch, and TCT.
 - In the survey of teachers, they responded that invitation course was helpful in terms of practical skills, theoretical knowledge, teaching methods, and curriculum development.
 - They responded in the survey that expert dispatch was helpful in terms of practical skills, theoretical knowledge, and teaching methods.
 - 6 out of 11 Kafr El Zayat training center instructors participated in 2 weeks course provided by TCT. With regard to effectiveness of course, new staffs were very satisfied and workers with experience showed their disappointed because it was not as good as expected.

□ **Efficiency**

(1) Actual Input Resources Compared to Plan

- All the activities were done within the time frame (2008~2012) and all the budget was administered appropriately.

- It is evaluated that by and large, all the project activities were implemented as planned. As third-year curriculum and textbook development were canceled, additional invitation of trainees was implemented in twice through adjustments.

(2) Efficiency of input of human resource

- By categorizing dispatched expert for each sector in TVET, engineering experts account for 100 percent in this project.
- In case of ADB projects, on the other hand, expert dispatches were comprised of diverse specialists (curriculum development, TVET institutional capacity building, TVET teacher training, vocational training financial affairs).

□ Sustainability

(1) Curriculum and textbook development

- Since curriculum has to meet the industrial demand when the industrial atmosphere changes, the curriculum also changes.
- It is found that PVTD developed curriculum and textbook on automobile maintenance field. It is considered that henceforth it can develop curriculum and textbooks on its own.

(2) Profit-making business

- It is shown that each VTC will sustain operating short-term course, and it is seeking for a way to improve the capacity of training teachers for its invigoration.
- Although each VTC has plan to operate automobile maintenance center, it is the prerequisite to ensure incentive for training teachers in charge of repair work and to secure professionals for its invigoration.

(3) TCT

- Sustainability is raised in that TCT is well-operated, and it expanded its training target to various groups.

(4) Post-project management for Shoubra VTC and other VTCs

- This project provided actual condition survey and plan for equipment offered in the past projects as a post-project support.
- There is a limitation of providing equipment and facilities because life of training equipment is not permanent, and this leads to low sustainability.

(5) KEZ Vocational Training Center

- In the survey on teachers, 6 out of 10 evaluated that there are enough resources for development of each VTC.
- Only four-tenth responded positively whether the center has a programme or a seminar to enhance capacity of teachers.

Cross-Cutting Issues

(1) Gender

- There is no case that female students enrolled in the VTC, and this shows that automobile engineering department is traditionally the male-dominated field.

(2) Environment

- There was little impact on the environment because only renovation of the facilities was implemented for the construction part.

(3) Human rights

- It is inappropriate to evaluate this project directly by how many human rights principles and standards were observed in that the project was implemented by Needs Approach, not by Rights-Based Approach.

3. Recommendations

□ Recommendations for Future Similar Projects

(1) Shift to projects on the policy and institutional improvement of TVET

- Aid focus should be on technical assistance such as the recipient organization's policy and management system rather than external aspect such as facility, equipment.
- Since the effect of the policy and system improvement needs to be nationwide for success of innovation in developing countries, it is recommended to focus on projects able to have influences on national-wide scale rather than projects in a certain area.

(2) Increase in participation of experts in TVET policy

- It is needed to broaden participation of experts in TVET policy on the planning and implementation stage of a project.
- The policy experts on job training can analyze the labor market and TVET policy of recipient country and have policy consultation with various stakeholders. On the planning stage, They can also raise effectiveness of the project by providing technical advice for improvement of TVET policy and

invigoration of TVET institution management. The field of TVET policy includes labor market analysis, skills standards development, curriculum development, management of TVET institution, teacher training, TVET financial affairs, evaluation on the institution.

(3) Prerequisite for introducing Business Model

- Capacity development of managers and participating teachers, rational distribution of profits, securing incentive for participating teachers are required in order to well-operate business model in TVET institution.

(4) Comprehensive evaluation on automobile vocational training center projects in Egypt

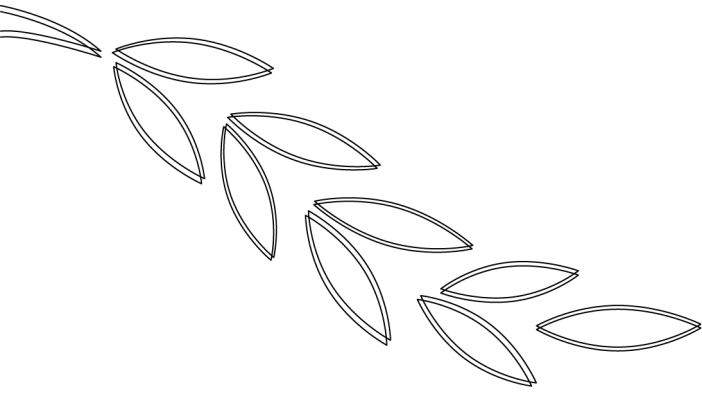
- It is necessary to evaluate all four centers and compare the educational outcome of KOICA-supported centers with that of other PVTD VTCs and technical high schools under Ministry of Education.
- In addition, there is a need to consider the necessity of the similar projects by comprehensive evaluation on relevance, impact, sustainability.

(5) Need for cooperation with other donor agencies

- Leading international organizations and donor agencies implement a variety of programs, they strive to build integrated TVET system in common in compliance with policy objectives of Egypt.
- Henceforth, Korea also needs to cooperate with other international organizations or other donor agencies with experience of building integrated TVET system in order to raise effectiveness of TVET-support system.

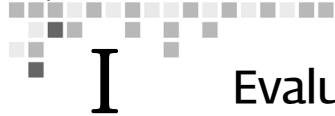
(6) Link with conditional aid

- VTC support project is costly when including construction (renovation) and equipment provision. After completion of a project, cost of management and equipment materials and support for maintenance are required.
- Hence, the effectiveness of the project can be raised by devising long-term plan from construction to post-project management and sharing the roles between conditional aid agencies and NGOs.



I . Evaluation Overview

1. Background
2. Purpose of Evaluation
3. Evaluation Team
4. Target Project for Ex-post Evaluation



I

Evaluation Overview



1. Background

- Since education is the basis for socio-economic development, the importance of education has been emphasized in cooperative development. There was a widespread demand for opportunities in higher education, and currently the support for vocational training is a growing trend.
- In Korean grant-type aid, the portion for education is very high. Among the total KOICA budget from 2001 to 2010, the educational support funding including all kinds of aid was 22% of the total KOICA fund.
- The current aid trend has changed into program aid, and advanced donor organizations' vocational training cooperative development is in the form of integrative TVET, so it is a suitable time for evaluation of vocational training projects.
- The results of "Program for the Improvement of the Automotive Vocational Training System in Egypt" should be analyzed objectively, and analysis from the results should be applied to planning and implementation of future similar projects to make them more effective.



2. Purpose of Evaluation

- This is for the ex-post evaluation for program for the Improvement of the Automotive Vocational Training System in Egypt. The results and effects of this project will be evaluated based on relevance, efficiency, effectiveness, impact, and sustainability, which are criteria provided by OECD/DAC.
- This evaluation is to find out the ultimate contribution to the development of Egyptian vocational capacity. Evaluation will be thorough verifying the successful achievement of each stage compared to the scheduled goals for those stages (Performance Evaluation).
- Also, by analyzing each process involving planning and implementation of the project, the evaluation team grasp the role of the implementation system and its limitations, and determine if the project system influenced positively or negatively for the planned effects (Process Evaluation).
- From the performance and process evaluation, the evaluation team will analyze the cause of success or failure and draw lessons useful for future similar projects. In addition, it can provide suggestions to apply to the future KOICA grant-type aid policy, which will result in a contribution to an increase in quality of Korean ODA.



3. Evaluation Team

- Evaluation team is composed of team leader and two sectoral experts (the respective sectors of Vocational Training and Automobile).

<Table I-1. Evaluation Team>

Sector	Name	Affiliation	Task
TL	Shin, Sang Hyup	Professor, Kyung Hee University	Project Management
Sectoral Experts	Lee, Young Hyun	Vice president, Korea Research Institute for Vocational Education and Training	Vocational Training
	Park, Jong Yup	IMB Tech	Automobile
Research Assistant	Lee, Jung On	Ph.D, Kyung Hee University	Research Assistant
	Ko, Yoo Sun	M.A, Kyung Hee University	Research Assistant
	Lee, Hye Ryun	M.A, Kyung Hee University	Research Assistant
	Cho, Won Woo	Intern, Institute of International Studies	Administration Assistant



4. Target Project for Ex-post Evaluation

1) Overview of the Project

- (1) Project title: Program for the Improvement of the Automotive Vocational Training System in Egypt
- (2) Project Period/Scale: 2008~2012 (3 years)/ Five million dollars
- (3) Project site: Cairo and Tanta, Egypt
- (4) Purposes
 - To upgrade facilities by providing training equipment and to cultivate skilled laborers through the transfer of advanced technology in the field of automotive maintenance;

- To contribute to reducing the high youth unemployment rate of Egypt and increase their chances of employment in the job-market by equipping graduates of VTCs with advanced technical knowledge and experiences;
- To pursue the sustainable development of KOICA projects by establishing a cooperation network among KOICA-supported PVTD auto-maintenance centers (Shoubra, Alexandria, and Embaba)

2) Process Details of the Project

Year	Item (*in chronological order)
2007	<ul style="list-style-type: none"> • Feasibility study • Selection of PMC agency
2008	<ul style="list-style-type: none"> • Agreement for the project • Invitation of trainees(managers and teachers)
2009	<ul style="list-style-type: none"> • Shipment of equipment
2010	<ul style="list-style-type: none"> • 3rd Dispatch of expert

3) Outline of the Project

<Table I-2. Outline of Program for the Improvement of the Automotive Vocational Training System in Egypt>

Project Title	Korean	이집트 자동차 직업훈련 시스템 사업
	English	Program for the Improvement of the Automotive Vocational Training System in Egypt
Division	Content	
Project Goal	<ul style="list-style-type: none"> • To create jobs for the youth • To develop the organized system of car maintenance vocational training and the interconnected system among existing projects. • To foster skilled manpower responding to demand in Egypt. • To contribute to achievement of MDG objective 8 and detailed objective 16 through working environment improvement of Egyptian laborers and industrial development. 	

Categories	Korea (\$5 million)	Tanta VTC support (1.8 mill \$)	<ul style="list-style-type: none"> • Support for new automobile maintenance VTC • Equipment provision, expert dispatch, invitation of trainees etc.
		Curriculum and textbook development (1.4 mill \$)	<ul style="list-style-type: none"> • Expert dispatch • Curriculum expert : 1 (24M) • Textbook expert : 2 (12M)
		Program for capacity development of teachers (0.8 mil \$)	Program for capacity development of teachers
		Development of e-learning contents (0.5 mill \$)	Development of e-learning contents on car maintenance
		Shoubra VTC post-management (0.4 mill \$)	Shoubra VTC post-management
		Miscellaneous (0.3 mill \$)	agreement on implementation and overheads etc.
	Egypt	<ul style="list-style-type: none"> • Secure the spaces for the installation of equipment (including maintenance) • Support the tasks of dispatched experts (providing of office area and information) • Support customs of equipments and transportation • Support administrations and manpower relating to project implementation 	
Project Site	Egypt / Cairo and Tanta area		
Period/Scale	5 year (2008-2012): \$5 million		
Beneficiary	Trainers, students in the field of car maintenance etc.		
Expected effect	<ul style="list-style-type: none"> • Create jobs by producing well disciplined labors for car maintenance • Improve the educational environment by building the organized system of automobile maintenance VTC 		
Implementing agency	Korea	Korea International Cooperation Agency (KOICA)	
	Egypt	Productivity and Vocational Training Department : PVTD	



II . Evaluation Items and Method

1. Evaluation Items
2. Evaluation Method
3. Limitations of Evaluation



II

Evaluation Items and Method



1. Evaluation Items

1) Evaluation Standard and Items

- Relevance is a standard of how the donor country's aid policy is considered to be beneficial to the recipient country's development demand, and the selection process and its relevance with project inputs.
- Efficiency is a standard by which input resources are used to maximize benefit.
- Effectiveness is a standard by which the project achieved its expected outcomes based on a logical framework.
- Impact is a standard to measure the impact created from the project, negatively or positively and intended or unintended. In a narrow term, it means how the outcomes of the project have impacted on the life of beneficiaries in all aspects, locally, socially, economically, environmentally, and culturally.
- Sustainability indicates how long the positive impact is sustained after the completion of the project. This is the standard to measure the consistency of changes and positive influences from the project.

- The issue of gender mainstreaming and environmental impact should include whether or not these factors were considered during the entire project cycle of planning, implementation and evaluation.

<Table II-1. Evaluation Items for Program for the Improvement of the Automotive Vocational Training System in Egypt>

Section	Standard	Evaluation Item	Remarks
Process Evaluation	Relevance	<ul style="list-style-type: none"> • Related to Korea's aid policy? • Related to the recipient country's development policy? • Selection of target area and beneficiaries appropriate? • Project plan appropriate? 	Literature Study and Interview
	Efficiency	<ul style="list-style-type: none"> • completed within the scheduled time and budget? • The materials and manpower timely and maximized in effect and with minimized cost? 	Literature Study and Interview
	Sustainability	<ul style="list-style-type: none"> • Appropriate exit strategy? • Any agreement with recipient country's budget and manpower input? 	Literature Study and Interview
	Consideration of gender	<ul style="list-style-type: none"> • Any consideration on gender equality from the beginning of the project? • Have gender-related data of the beneficiaries? 	Literature Study and Interview
	Consideration of environment	<ul style="list-style-type: none"> • Any anti-environmental problems during the process? • appropriate suggestions or corrective action? 	Field study
Performance Evaluation	Outputs	<ul style="list-style-type: none"> • Facilities and equipment appropriately purchased? • Dispatch expert and invitational training are appropriately performed? • Curriculum and materials developed appropriately for newly opened center • Completed the master plan for the operation of training center? 	Field study

Section	Standard	Evaluation Item	Remarks
	Outcome	<ul style="list-style-type: none"> Accomplish the goal in terms of the number of trainee enrollments and graduates? Use developed curriculum and teaching materials? Use center facilities and equipment? Teacher's ability intensified? 	Field study
	Impact	<ul style="list-style-type: none"> Quality and usefulness provided by the center superior to other centers? Any economic impact? 	Field study
	Sustainability	<ul style="list-style-type: none"> On the part of beneficiary, manpower and budget secured after the completion of the project? What could be the policy and technical factors to support sustainability? 	Field study
	Gender	<ul style="list-style-type: none"> Any influence on gender or gender equality (intended or unlimited)? 	Field study
	Environment	<ul style="list-style-type: none"> Any cause of anti- or friendly-environmental factors (intended or unintended?) 	Field study



2. Evaluation Method

- Evaluation team makes use of the following qualitative methods such as literature study, in-depth interviews, focus group discussions, and quantitative methods such as surveys.

1) Literature Study

- Since a literature study can be the basis for interviews and surveys, evaluation team referred to various domestic and international materials to find out the context and evaluation items widely used internationally for a vocational training project.

- The target documents for literature study include feasibility study reports, reports from the PMC, reports on expert dispatch, training programs, interim evaluation reports, and any documents related to the project and National Development policy of Egypt, vocational training policy, various indices for economy and labor, and other reports provided by donor countries.

2) Interview with Domestic Stakeholders

- Interviews with domestic parties concerned were conducted in order to collect opinions related to the project. Interviewees were people mainly from PMC. The interviews focused on identifying the causes of problems occurred during the project implementation and method of coping with them.

3) Interview with On-Site Stakeholders

- Interviews of on-site stakeholders were conducted mainly to find out opinions related to the project and compare the results of interviews with domestic parties concerned. Interviewees include people from PVTD and 4 VTCs, so that evaluation team could analyze the project from a diverse range of perspectives.

4) Survey of VTC Teachers and Students

- The survey was carried out on 41 teachers and 199 students in 4 VTCs. The purpose of this survey was to analyze the effectiveness of the project.

5) Focused Group Interview

- Focused Group Interviews were conducted with randomly selected interviewees (32 teachers and 16 students) to supplement surveys. The focus of these interviews were mainly on how effective the training center education was for students, and on what degree teachers and students were satisfied with each VTC.

6) Comparative Case Study

- Evaluation team compared this project with other vocational training centers for a horizontal comparison. Implications drawn from this study were to be utilized for setting the basis of recommendations.

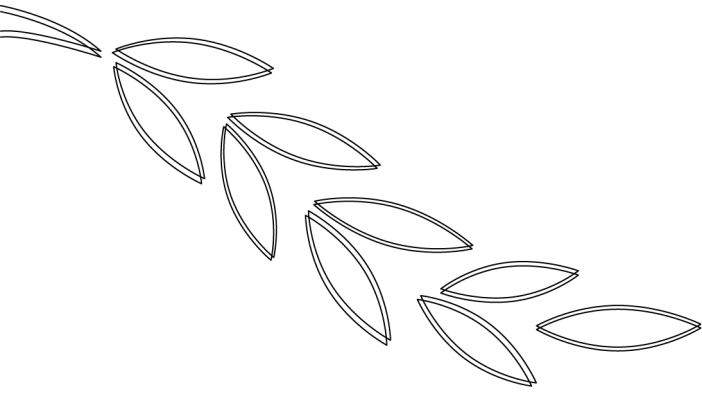
<Table II-2. Study items based on Evaluation Method>

Evaluation method		Subject	Evaluation contents
Literature study		Project related reports	Overall picture of the project
Interview	Egypt	PVTD concerned Embaba VTC KOICA Egypt office	<ul style="list-style-type: none"> • Collect information on PVTD and VTC training education policy • Status data of each center • Collect data (operation budget, current data on students and teachers, curriculum) • Status of equipment utilization • Recommendations and future plan • Forms of assistance from other donor agencies and status
	Korea	PMC concerned	<ul style="list-style-type: none"> • Overall flow and context of the project • Evaluation on the project • Difficulties in implementation
Questionnaire		VTC students (50 in total)	<ul style="list-style-type: none"> • Degree of satisfaction on facilities, curriculum, textbooks, and teachers
		VTC lecturers (11 in total)	<ul style="list-style-type: none"> • Degree of satisfaction on the training center • Degree of satisfaction on training
Focus Group Interview (FGI)		VTC students (4)	<ul style="list-style-type: none"> • In-depth interview based on survey questions
		VTC concerned (10 lecturers)	<ul style="list-style-type: none"> • In-depth interview based on survey questions
		PVTD concerned (Director and curriculum developer each)	<ul style="list-style-type: none"> • Policy related to vocational training center • Curriculum development policy and process



3. Limitations of Evaluation

- Opinions of graduates and employers become crucial in order to evaluate if the graduates have capability which is needed by industry. However, due to the lack of management of graduates and limited relations between the center and the industry, it was hard to review a sample of them, which resulted in an insufficient examination.
- It was difficult to collect information needed for this evaluation because political unrest made the schedule of on-site survey delayed until the end of the evaluation. In this regard, there was no enough time to review the collected information from the survey.



III. Results of Ex-post Evaluation

1. Relevance
2. Efficiency
3. Effectiveness / Impact
4. Sustainability
5. Cross-cutting issues



Results of Ex-post Evaluation

1. Relevance

- Relevance evaluation is a process evaluation to determine if the project was based on the donor country's policy and the recipient country's development needs.
- In order to carry out a relevance evaluation, it is necessary to measure how this project corresponds to the recipient country's development policy and to ensure that the project took into account the local context so that it produced maximum effective development cooperation.
- Accordingly, this evaluation includes a relevance evaluation of KOICA's aid policy and national development policy of Egypt, and analyzes how much this project considered the local industry's environments and systems.

<Table III-2. Evaluation Items of Relevance>

Criteria	Items
Relevance	1. Relevance with KOICA Aid Policy
	2. Relevance with Recipient Country's Development Policy
	3. Relevance of Selection of Target Area
	4. Balance with Other Donor Agencies
	5. Relevance of the Project Plan

1) Relevance with KOICA Aid Policy

- When selecting the target project for evaluation, sectoral strategy and country aid strategy were incompleting. Therefore, past experience and CAS became the basis for the ex-post evaluation.
- The size of the cooperative project by KOICA for Egypt is about \$32.93 million from 1991 to 2008.
 - Since the establishment of diplomatic relations on April 1995, Egypt has been classified as main cooperative partner country, and especially the size of project has been gradually expanded since 2002.
 - Between 2005 and 2006, around \$5 million assisted each year including the Middle East special cooperation business, and the amount drastically expanded to \$7.5 million in 2008.
- Details relevant to CAS established in November 2007 make an emphasis on human resources development, and especially on auto vocational training as follows.

<Table III-3. Mentions relevant to vocational training of CAS>

Divisions	Contents
Operational results and status	<ul style="list-style-type: none"> • A variety of projects have been conducted with considering demands and priority fields of Egypt, and assistance has been concentrated on the fields such as IT, auto training, and regional development and so on.
Evaluation and lessons	<ul style="list-style-type: none"> • Raise effective operational results via choice and concentration: Projects implemented were mainly comprised of IT and vocational training (especially auto occupation) in which Korea has comparative advantage enabling the efficient use of resources and raising effectiveness of the project. • Contribute to the development of human resources and capacity.
Operational objective	<ul style="list-style-type: none"> • Economic growth via human resources development

Operational sector	<ul style="list-style-type: none"> From the perspective of acquiring skilled manpower for industry advancement and national competitiveness, it is expected that the VTC would contribute a lot not only to nurturing skilled manpower and creating jobs in the field of car maintenance, but also to expanding the entrance of Korean vehicles to Egyptian auto market which took the portion of 40% of the new car market.
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- As follows, the target project for evaluation coincide well with the policy orientation of CAS.
 - Between 1991 and 2008, Korea sent Egypt a total of \$32.93 million in which the field of education took the portion around 30% which amounts \$9.89 million. Considering the fact the 15.3 percent of total project budget was spent on the field of education, choice and concentration have been made toward the field of education including vocational training.
 - Especially, 7 assistance have been made for vocational training area.

<Table III-4. Records of Aid for Egypt in the field of vocational training>

Project name	Project period	Funding
Shorabia VTC aid project	1993~1995	\$600,000
Shoubra auto maintenance center aid project	1996~1998	\$1.5 million
Alexandria auto maintenance vocational training aid project	2004~2006	\$1.8 million
IT distance learning aid project	2004~2006	\$700,000
Embaba auto maintenance vocational training center aid project	2006~2008	\$2 million
Luxor secondary technical school aid project	2007~2008	\$1 million
Egyptian auto and vocational training system advancement project	2008~2012	\$5 million

2) Relevance with Recipient Country's Development Policy

(1) Development Strategy of Egyptian Government

- During the decision making period of the evaluated nation's support the core development plan of the Egyptian government were (i) 21c national strategy of social economic development (1997-2016), (ii) 5th five-year social economic development plan (2002-2007).
- the core assignment of these strategies and the five-year development plan was recovering from recession through promoting economic liberalization including privatization based on macroeconomic stabilization, deregulation and financial reform.
- As a part of the core assignment, four time of investigation from 1994 to 2000 by world bank, committee of education training employment, economic survey forum, etc, the core results are as below.
 - Core element of economic liberalization which is a precondition of economic growth is skilled manpower.
 - Problems of quantitative and qualitative labor are the most limiting element and the degree of quantitative and qualitative professional competency is on its downside manner.
 - Improvement in job skill training quality is the most important task.
- Accordingly, Egyptain government established Education, Training and Employment Sub-Committee: ETES in 2000 by the support of World Bank. One of the committee's main purpose was establishing reform strategy of Technical and Vocational Education and Training, TVET.
 - in this context, the main tasks of ETES final report submitted in June 2000 were (i) national job classification system, (ii) employment service, (iii) labor market information, (iv) national technical qualification examination, (v) technical education and vocational training and etc, has also suggested implementation strategy.

- In 2002, Egyptian government has selected, basing on the ETES, policy statement relating to 'TVET', and delegated supreme council of human resource development for reform strategy's execution of operation.
- As a result, policy statement relating to 'TVET' can be said to be a high rank document directly engaged with the evaluated project. The contents are below.

(2) Main Contents of "Policy Statement on TVET"

- Main issues with respect to Egypt's TVET are as follows
 - The imbalance between supply and demand in labor market: while the labor market requires skilled manpower, highly educated unskilled manpower is oversupplied, inefficient various statistical and analysis data, lack of employment information.
 - Inefficient TVET system: policy and implementing system are multilayered and distributed to each department - lack in connectivity between formal and informal sectors.
 - Poor license approval and certification system
 - Deficient number of professional trainers and educational materials: weak education for nurturing trainers and renovation, inappropriate out-dated curriculum, textbooks, education and equipments.
 - Uneconomical aid system: failure in reformation to create consistent sectoral policies, overemphasis on sub-unit individual projects, lack in the role of coordination for mutual supplementation among aid agencies.
- Main tasks and Tools for Implementation of 4 strategies
 - Main tasks and tools for implementation of 4 strategies to solve aforementioned issues are as follows.

<Table III-5. Main tasks and Tools for Implementation of 4 strategies>

4 strategies	Main tasks	Means of execution
Qualitative progress of qualification system for life-long education	<ul style="list-style-type: none"> • Establishment of national skill standard and job classification • National qualification system • Strengthen connectivity between schools and VTC, also between formal and informal sectors • Link with job stability • Education for nurturing trainers and managers, and of renovation • Development of an appropriate curriculum matching with the labor demands • Quantitative and qualitative progress of VTC's facilities and equipments 	<ul style="list-style-type: none"> • Build structure for policy formation and management • Build new legal management system • Build new financial management system • Build national qualification system
Establishment of system matching with demands from labor market	<ul style="list-style-type: none"> • Capacity development of corporations for within-the-schedule-training • Prepare incentives for inducing corporate participation in training • Enhance inter-partnership between VTC and corporations • Strengthen training for the unemployed 	<ul style="list-style-type: none"> • Build comprehensive quality management system • Enhance research and development
Establishment of related law, institution, and governance	<ul style="list-style-type: none"> • Strengthen autonomy and financial independence of VTC (secure a source of profit) • Revision on training policy in the private sector, operation and support sytem of VTC • Fortify links between regional technical schools and VTC 	<ul style="list-style-type: none"> • Qualitative growth of trainers • Market oriented employment service institution • Develop consultation service for job and career development
Policy enhancing flexibility of labor market	<ul style="list-style-type: none"> • Employment information, employment consultation, and career development program • Targeting the unemployed and the labor intensive workers (discard the dependency structure on low-wage temporary jobs) • Introduce full-time jobs, establish acts for acquiring flexibility of labor market 	<ul style="list-style-type: none"> • Expand regional based labor-intensive public projects to eliminate poverty

3) Harmonization with Other Donor Agencies

- Although various giving organs exist, which supports Egyptian TVET, representative projects among them are as stated below.
 - On the lead of British Council, European giving organs have supported since 2000 to 2005 through National Skill Standards Project, NSSP. the organs helped develop standards on 105 jobs on three different industries.
 - Germany has attempted to connect industrial/labor market demand with tech education through Mubarak-Kohl Initiative, MKI and implemented german dual currency. With the project in 2009 base, 76 tech high school trained about 24,000 students through cooperation with 1,900 companies.
 - World Bank, through Skills Development Project, SDP provided six months of training sharing its cost with small businesses in construction, tourism, manufacturing to increase public demand in tech training. The project had been test operated training 34,500 students by 1,155 small businesses as a demand-driven training funding mechanism).
 - European Commission, to contribute improvement in domestic and international competitiveness of Egyptian businesses, built TVET-partnership, among 12 companies according to its industries to achieve training connection among themselves.

- As stated, main giving organs focus on improving demand-driven system and executed various measures for cooperation with businesses.

- Hence, the project had not been overlapped with others, yet whereas other giving organs focus on improving the policies of TVET, the project is limited to single sector of automobile industry.

4) Relevance of the Project Plan

- The project has the purpose of maximizing the effect of the past projects by connecting automobile maintenance job training project with it, meanwhile building infrastructure of education.
- The contents of project are developing standard education curriculum, establishing teacher training center, building job training manager skill development programme, Shoubra job training etc post-management, and Kagr El Zayat job training. These compositions are examined to be adequate as a project plan contents.
- For the improvement of project effectiveness, large expansion of specialist sending period (89months) had been made, which is much greater expansion compared with other job training projects. Responsible specialists are made to provide technical assistance for 36 months from PVTD during job training managing period.
- Compared with regular range of job training project being limited to individual job training organizations, the project is examined to be adequate for its new attempt to improve job training policy and system.



2. Efficiency

- Evaluation of efficiency is to measure how all the inputs produce the maximum of outputs and outcomes.
- The evaluation is to examine how appropriately time, budget and manpower are allocated to yield appropriate effectiveness.

<Table III-7. Evaluation Items of Efficiency>

Criteria	Items
Efficiency	1. Actual Input Resources Compared to Plan
	2. Efficiency of Project Management
	3. Efficiency of Input Allocation
	4. Efficiency of Project Implementation Method

1) Actual Input Resources Compared to Plan

- The project pursues participatory measurement which corresponds with project plans and budgets from both partners' consensus. In the light of resource input, the project was generally a fine process.
- The project period was from 2008 to 2012, and all activities were terminated within the due time. The business budgets all had been spent according to what had been agreed before terminating the project.
- Although initial plan was to develop 20 kinds (fourth ed) textbooks, as been changed to 20 kinds (fourth ed), the given period for specialist who develops the textbooks had been shortened. Since the project had been mended twice,

instead of sending specialist, two times invitation of job training manager had been added.

<Table III-7. Implement of Input Items Compared to Plan>

Input	Specification	Plan	Implementation
Time		2008~2012 (5years)	2008~2012 (5years)
Budget	Total	\$ 5,000,000	\$ 5,000,000
	Tanta job training center support	1,800,000	1,800,000
	Curriculum and textbook development	1,400,000	1,400,000
	teacher's capacity enhancement programme	\$ 8,00,000	\$ 8,00,000
	e-learning education content development	\$ 500,000	\$ 500,000
	Shoubra job training center post-management	\$ 400,000	\$ 400,000
	etc	\$ 300,000	\$ 300,000
Manpower		92MM	88MM

2) Efficiency of Project Management

- The project began as plan in 2008 and terminated in 2012. General resource input had been well managed to yield outputs on time. However, Kagr El Zayat job training center support activity had been lagged behind since the delay in maintenance of building recipient country is responsible for. In addition, although the textbook development had been decrease from 4th to 2nd edition, continuous translation process made delays as well.

- Meanwhile of project promotion, two times of project adjustment made some changes which shortened periods of expert sending and instead adding two more invitation training.

<Table III-8. Comparison between planned and implemented schedules>

Division		1year (2008)		2year (2009)				3year (2010)				4year (2011)				5year (2012)			
		3/4	4/4	1/4	2/4	3/4	4/4	1/4	2/4	3/4	4/4	1/4	2/4	3/4	4/4	1/4	2/4	3/4	4/4
Curriculum and textbook development	expert send			○		○		○		○		○		○		○			
	trainee invitation				○		○		○		○		○						
	process, textbook development			○	○	○	○	○	○	○	○	○	○	○	○	○			
teacher's capacity enhancement programme	responsible expert send			○	○	○	○	○	○	○	○	○	○	○	○	○	○		
	additional expert send																		●
	trainee invitation	○					○											●	●
	seminar																		○
establishment of teacher training center	building maintenance (recipient)	○	○																
	expert send			○		○		○		○		○		○					
	apparatus support	○	○	○	○														
Kafr El Zayat automobile maintenance job training center support	building maintenance (recipient)	○	○	○	○	○													
	expert sending			○	○	○	○	○	○	○									
	trainee invitation	○																	
	apparatus support	○	○	○	○													○	○
job training center post-management	apparatus support	○	○	○	○													○	○
	engineer sending																	○	○
	post management									○	○	○						○	○

Division		1year (2008)		2year (2009)				3year (2010)				4year (2011)				5year (2012)				
		3/4	4/4	1/4	2/4	3/4	4/4	1/4	2/4	3/4	4/4	1/4	2/4	3/4	4/4	1/4	2/4	3/4	4/4	
project management	project confirm/ manager send	○																	○	
	Vehicle support for special agent		○	○																
	Monitoring			○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
	Management	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

- = planned schedule
- = actual implementation
- = additional support

3) Efficiency of Input Allocation

- To evaluate efficiency in placing resources, difficult was obtaining data of similar projects. Yet in order for comparison, here attempt to compare the project with 'Skills Development Project' from ADB promoted by Bangladesh from 2008 to 2012, which has input data of expert counsel.
- The division of expert counsel is in similar manner. In comparison, since the project takes 100% share of engineer experts in all expert input, whereas to ADB's dispersed shares in expertise throughout TVET composition of fields, some disappointments are presented in the evaluation; For enhancement of job training organizations, various fields of expertise are desired, thus, aside from engineering TVET teacher training and etc are recommended to contribute to vitalizing of center management.
- In sum, the project went by plan in time, budget, human resource input, which are evaluated to have yield outputs according to the plan.
- For system improvement, focus shift from job skill training to 'by field expert focus basis' is needed to enlarge expertise in each field.

<Table III-9. TVET expert input comparison>

(unit : Person/Months)

The project		ADB Skills Development Project			
Domestic experts		Expertise field	Int'l	Nat'l	Total
Engineer experts	89	TVET standard work performance and team leader development	24	48	72
		CBT curriculum, data, evaluating tool establishment	18	36	54
		TVET organ reinforcement	12	20	32
		TVET teacher training	24	46	70
		Teacher training plan	3	6	9
		Budget management plan	4	12	16
		Demand based allocation	12	12	24
		Trainee demand survey		12	12
		Gender & native problems		14	14
		Assistance		18	18
		Financial management		12	12
		External financial analysis		12	12
		External perform evaluation		12	12
Total	89	Total	97	260	357



3. Effectiveness / Impact

- Evaluation of effectiveness is to decide whether this project accomplished the planned goals.
- Evaluation of impact is a part of performance evaluation and it is to measure the long-term influence of this project.

<Table III-10. Evaluation Items of Effectiveness/Impact>

	Index	Applied institution	Goal
1. output	1) output	4 job training center	100%
2.degree of goal achievement	1) market adequacy of new curriculum	4 job training center	satisfaction 80%
	2) availability of new textbook	4 job training center	80%
	3) apparatus use rate	4 job training center	90%
	4) management ability improvement	PVTD and 4 job training center	training satisfaction 80%
	5) operation of teacher training center	Shoubra job training center	annual oo process
	6) operation of profit-making business	4 job training center	more than 1
	7) KEZ job-training center student registration rate	KEZ	80%
	8) KEZ job-training center graduate student employment rate	KEZ	related busines 25%
	9) KEZ job training center teacher's ability improvement	KEZ	training satisfaction 80%

1) Evaluation of Output

- The project was performed from 2008 to 2012 and the project is composed of
 - i) development of standard curriculum and textbook, ii) establishment of management ability development program, iii) establishment of teacher training center, iv) Kafr El Zayat job training center support, v) Shoubra training center after management, vi) other PMC project management.

- promoted by project-promotion plan submitted in August 2008, several parts were changed by 2 times of adjustment. The project was generally progressed smoothly and accomplished planned outcomes (Refer to <table III-11>).

<Table III-11. Work Process Result Compared to Project Plan>

Project element		Output performance with plan		Achievement rate
		plan	output	
development of standard curriculum and textbook	sending expert	1 person/December	1 person/ August (adjusted)	100%
	inviting trainee	5people/January/4 times	5 people /January/2 times(adjusted)	100%
	curriculum development	2 types	2 types	100%
	textbook development	20 types (fourth)→ 10types (1 adjustment)	10 types (second)	100%
establishment job training manager ability development program	sending expert (responsibility expert)	36months(3 people)	36months (6 people)	100%
	inviting trainee (manager)	<ul style="list-style-type: none"> • 10 people/2weeks/2 times • First add (adjusted) (15people/2weeks) • second add (adjustment) (5people/2weeks) 	<ul style="list-style-type: none"> • 10people/2weeks /2times • 15people/2weeks/ 1 time • 5people/2weeks/1 time 	100%
establishment of teacher training center	sending expert	October(1person)	August(1person) (adjusted)	100%
	supporting apparatus	41types 181points	41types 181points	
Kafr El Zayat job training center support	sending expert	30months(2people)	30months(3people)	100%
	supporting apparatus	205types 3,127points	205types 3,127points	
	inviting trainee	15people/3months/1time	15people/3months/1time	100%
Shoubra etc, afterward management	sending expert	4people/2months	4people/2months	100%
	supporting apparatus	72types 218points	72types 218points	

Project element		Output performance with plan		Achievement rate
		plan	output	
other PMC works	sending launching consultant	8people/8days/1time	8people/8days/1time	100%
	expert car support	4 WDRV cars support	4 WDRV cars support	100%
	additional support	sending project manager	sending project manager (1person/10days)	100%
	other business management	<ul style="list-style-type: none"> • overall projects • project launching consultation • checking process • consultation 	<ul style="list-style-type: none"> • supporting interim evaluation and 1time project plan adjustment • ending evaluation meeting and Second project plan adjustment 	100%

(1) Development of Curriculum and textbook

A) Curriculum Development

- PMC support tasks related to development of curriculum and textbook and establishment of teacher training center. In order to reflect demand of supplier, it increased effectiveness by establishing "curriculum committee."
- Tasks of curriculum editing process is lead by Eng. Madeha (chairman of curriculum committee), Korean expert performed as consultant
- newly developed curriculum adjusted to 1 grade in 2011 and expanded to 2nd grade in 2012.

B) Textbook Development

- 20 subjects was intended to developed for four times but changed a plan to develop 10 subjects (1st grade 5 subject and 2nd grade 5 subject)
- For qualitative improvement of textbook, 2 times of supervision of proceeded. 1st was proceeded by automobile experts who have abundant experiences in TVET and PVTD and 2nd was proceeded by famous Egyptian professors.
- Developed textbook was distributed to 4 vocational training center supported by Korea. 1st and 2nd grade uses textbooks and in order to be used in all PVTD training center, it was approved by director and PVTD curriculum committee. However, other training center could not obtained apparatus needed for new textbook so that textbook was not able to expand.

(2) Capacity Development of Teachers

A) Expert Dispatch

- responsible experts were sent from 2009 to 2012. Core tasks of experts were overall management of the project, establishing and managing network of recipient organization and KOICA, establishing manager ability development program, development plan of industrial related model and profit-business, supporting apparatus customs entry and project expenses execution and evaluation and feedback to on each sectors.
- Specialists reinforced profit model projects on each center and newly established Kafr El Zayat job training center developed new profit model project.

B) Trainee invitation

- Job training manager invitation was operated 4 times for 40 people. Manager invitation training program is as below <table III-12>.

<Table III-12. Manager invitation training program>

Division	1st	2nd	3rd	4th
term	'08.11.1~11.14 (2weeks)	'09.10.17~10.30 (2weeks)	'12.2.4~2.17 (2weeks)	'12.12.1.~12.14 (2weeks)
person	10 people	10 people	15 people	5people
target	PVTD 10 including president	PVTD 10 including vice-president	PVTD managers	PVTD managers
contents	<ul style="list-style-type: none"> • Understanding Korean Culture : 3hours • Korean economic development and career capacity development : 6hours • Korean graduate qualification system and tech certificate policy : 6hours • curriculum/textbook development : 6hours • Education and industry cooperation : 3hours • vitalizations of profit project : 3hours • Korean career training system : 3hours 			
hours	1day 6hours(5day a week) total 33hours	1day 6hours(5day a week) total 33hours	1day 6hours(5day a week) total 33hours	1day 6hours(5day a week) total 33hours
speaker	Faculty member of Korean tech Univ. and other speakers			

C) Seminar and workshop

- The project needed quantitative indicator. Thus, conformed small councils through three conference seminars and also for improvement of curriculum management system held conference in same manner. Final performance presentation conference was held once to conclude a direction for sustainable development.

(3) Establishment of Training center for Trainers

A) Management expert dispahtc

- result of sending management expert; established Shoubra automobile maintenance TCT within the job training center and started from january 2010. Initially targeting four centers which KOICA supports and gradually all instructors thorough Egypt.

B) Equipment Provision

<Table III-13. Equipment support>

Content	Type	Items
Workshop	22	48
Classroom & Training room etc.	19	133
total	41	181

(4) Kafr El Zayat job training center support

- Kafr El Zayat(KEZ) job training center support project is consisted of automobile expert sending, equipment support, trainee invitation.

A) Automobile expert sending

- For instructors' capacity enhancement of job training center of Kafr, two automobile expert sending had been put for 15 months.

B) Equipment support

<Table III-14. Equipment support>

Contents	Type	Items
Engine Repair Workshop	39	134
Chassis & Transmission Repair Workshop	24	72
Car Inspection Workshop	9	10
Auto-Electric /Electronic Workshop	21	95
Painting&Body Repair Workshop	28	2,101
Spare Parts List	15	49
Teaching Aids	19	19
Class Room & Instructor's Office	19	453
Commonness Equipments	10	154
Car Maintenance Workshop	21	40
total	205	3,127

C) Trainee invitation

- 15 of Kafr El Zayat job training center instructor were invited to 3 months of training programme.

(5) Post-management; Shoubra

- job training center's post-management is consisted of equipment support, post-management, sending expert, replacement and parts repair, equipment reinforcement.

A) Shoubra job training center equipment support

- Identified 29 of item for repair and 72 types of new 218 items are supported

B) Four job training center post-management

- post-management has processed twice; 1st in 2010, surveyed actual conditions, planned accordingly, analyzed the usage of equipments and considered parts needed to repair and be replaced. 2nd in 2011, dealt with carried over items as well as replacements.

C) Engineering expert sending

- For conducting education on post-management of equipment and application and management of equipment, sent 1st four engineers for two months.

D) Repair parts, reinforcement of equipment support

- Based on 1st post-management, management condition took resurvey to identify new lists of items that need replacement and repair as a post-management service.
- based on support plan, Korean firm purchased new equipments and parts for repair was bought by the mechanic himself.
 - 78 type 1,362 item were in need out of 86 types and 1,402 items.
- Malfunctioning 44(84.6%) out of 52 types have completed its repair, 3 repaired in Korea, and 5 was not repairable.
 - Among the five items, two is partially usable.

2) Achievement of the Project's Effectiveness

- For the purpose of the evaluation of effectiveness, the evaluation team analyzed the rate of enrollment, employment and satisfaction of the center. Also the utilization of curriculum, materials, facilities was analyzed.

(1) Relevance and usefulness of new curriculum

- PVTD, ITC, Egypt automobile engineering professor, auto industry workman, Korean professor and etc have participated in new curriculum development. As a result of counselling the PVTD center principle and instructor during the local inspection, curriculum developed by the project is evaluated to be highly adequate in meeting demands of Egyptian industrial market.
 - These facts have been also confirmed by the survey done on job training center instructors. 82.9% of survey said the adequacy of curriculum with its industrial market to be highly positive, marking 3.9 average out of 5 maximum.

<Table III-15. Survey Question on the curriculum>

Q. Was the curriculum developed by the Project relevant to the industrial demands?										
Center	Shoubra		Alexandria		Embaba		KEZ		total	
People	11	100	9	100	11	100	10	100	41	100.0
Positive response	10	91	7	77	7	63	10	100	34	82.9
5 point scale	4.5		3.3		3.4		4.6		3.9	

- The usage of developed curriculum is limited to the four centers of KOICA's support. In the beginning, there were plans for expansion but no facility and equipment needed were prepared to do so.
- 10 textbooks developed from the project are presented to be well used

adequately. According to the survey done on students and instructors of the four centers, 80.5% instructors and 74.9% students answered that they have used the textbook well, marking average points 3.7 and 3.8 respectively out of 5 max point.

<Table III-16. Survey Question on the text books>

Q. (student) Are the textbooks utilized adequately?										
Center	Shoubra		Alexandria		Embaba		Kafer		total	
People	11	100	9	100	11	100	10	100	41	100.0
Positive response	10	91	7	77	6	54	10	100	33	80.5
5 point scale	4.2		3.2		3.4		4.7		3.7	

Q. (instructor) Are the textbooks utilized adequately?										
Center	Shoubra		Alexandria		Embaba		Kafer		total	
People	48	100	51	100	50	100	50	100	199	100
Positive response	38	79	43	84	30	60	38	76	149	74.9
5 point scale	3.98		4.00		3.34		4.08		3.8	

(2) Usefulness of Provided Equipment

- the usage of equipments can be seen through equipment use note, but then no one uses it. Through survey, however, we can check how equipments are used at least roughly.
 - PMC organization's engineering expert informed and educated users to write on the note, yet it is not well followed.
 - It is necessary to have the note to be an obligatory procedure to efficiently manage equipment usage in the future.

(3) Manager Capacity Enhancement

- The remark of the evaluated project is that establishment of capability enhancement of job training manager system had been included. This is for reconsidering to vitalize business with a sustainable contents. In the project, an responsible leader who is in charge of technical advise was sent to PVTD for 36 months.
- Activities for experts' skill development programme is presented as counselling and establishing manager skill development programme, establishing and planing connection model of education and industry
- Two weeks course of instructor invitation for manager ability development targeted on PVRD and job training center managers was not as impressive. As a result of analysis on the course, the topic of the course, profit model project and education-industry cooperation were only provided for three hours each.
- For developing job training manager's capacity, more systematic and constant development system is needed rather than instant seminar, workshop, and short courses.

(4) Operation of Training Center for Trainers, TCT

A) Situation of TCT

- TCT's situation which is established within Shoubra job training center is as below.
 - Establishment: Established in 2008 by KOICA support
 - Purpose of Establishment: Enhancement in capacities; PVTD instructors and professors(especially auto tech)

- Programme: Short-term life-long education course to enhance abilities of learning and to be qualified to demand of industrial labor market.
 - Training facility: ready-settings of latest automobile maintenance (engine workshop, auto-electricity, various practice rooms, air-conditioning system, conference room, lecture room, etc)
- PVTD has selected four Master Trainers who can be educated in TCT. Shoubra job training center principle, two instructors, and one Embaba job training center instructor.
 - Until now TCT has issued only enrollment certificates to the ones who have taken the course, however, in order for systematic learning to work, they are developing qualification standards.
 - After terminating the training course, survey are conducted to research their satisfaction and applying the survey result to the courses management process if any changes are necessary. For instance, in the past one speaker gave lecture but now according to its field's expertise, two or more can teach also.

B) Performance of education training

- The performance on TCT programme is as state below.
 - Instructor course : 30 lectures (2010.1 ~2011.5)
 - Engineer univ student special : 17 lectures(2010.4~2012.6)
 - Automobile maintenance job seekers : 167 people
 - Nissan auto technician : (Painting) special course
 - Oman's automobile mechanic 12people : enhancement training
 - Barbarian auto group workers 10people :enhancement training

- Interviewed TCT education training programme participants answered various different opinions. New instructors had high satisfaction rate whereas the ones for more than second time did not have high satisfaction rate on Master trainers course. The future task is constantly enhancing capacities of the Master Trainers course.

(5) Profit project management (the four centers)

- This project provided tech counselling in order to expand former projects that are run by the centers and to enlarge those profit model project (short-term automobile maintenance) that are supported by KOICA.

A) Shoubra vocational training center

- Shoubra job training center supported by this project established TCT, and from January provided instructor's capacity enhancement programme within PVTD's job training center. Other engineer university student special course also had been managed on 1 to 4 week course.
- The work of TCT started in 2010-2011, yet recent stagnation is suspected to be due to Egyptian domestic instability.¹⁾

B) Alexandria vocational training center

- Alexandria job training center ran a two weeks course (60 hours) from 2008 to 2011. During the past four years total 811 students had participated in its short-term course.

1) Shoubra job training center TCT was not as active recently. After 2011 Egyptian domestic instability caused limited freedom of travel.(interview with head of Shoubra center).

C) Embaba vocational training center

- Embaba job training center, after terminating "Establishment project of Embaba automobile maintenance", have provided short-term course during 2008. 11 ~ 2010. 1. Had run the projects 20th times; 2weeks and 4weeks courses respectively. However, now the service is terminated.
- Right next to Embaba job training center, the automobile maintenance center provided its service on PVTD and Korean embassy workers from may to June 2009.
- Currently the center is closed, yet has submitted proposal to hire a technician needed to re-operate the center.

D) Kafr El Zayat vocational training center

- Kafr El Zayat job training center have provided 2 weeks programme service since 2010. Main target of short-term course is university students and recently once had focused on residents. 80 students completed this course.
- Kafr El Zayat job training center had completed preparing operation of Automobile maintenance center and are consulting with PVTD. In case of maintenance center operation, it should be after training courses which is 4 in afternoon. Adequate incentives to maintenance instructors are issues to deal with.

(6) KEZ vocational training center Student Enrollment Rate

- Kafr El Zayat vocational training center had opened in 2011 and operated two engineering departments (automobile maintenance and body repair) and additionally created computer department in 14th of 2013.²⁾ Total enrolled students are 215 in October 2013.

2) The reason of establishing department of computer was for promoting awareness to regional communities, which was confirmed by PVTD (Head of center interview).

- The two department's maximum students were 255 and had 204 enrolled, which composed 80%.

(7) KEZ vocational training center graduates' employment rate

- KEZ vocational training center had yield first 67 graduators in 2013 (Automobile 43, Body repair 24). Before graduating, 68 junior students applied to take diplomat test to pass 67 of them in result. The 67 students' career is 19 employed, 20 joined army, and 28 went to university.
- The employed 19 students mostly worked in private service centers. Job training center did help them find jobs, yet no systematic assistance was seen. Most employments were made by directly applying for jobs for students themselves.

(8) KEZ vocational training center instructors' skill enhancement.

A) Securing instructors

- KEZ instructors number is 17 as referred to below <Table III-17>, administration workers are 12. They are seen to have cared about administrative work performance. However, when present freshmen in computer department becomes sophomores, additional instructors recruitment are planned.

<Table III-17. KEZ Job training center instructor securement>

instructor				teacher	administ
Engine	Chassis	Electric	Painting & body repair	2 full-time 6 part-time	
1	2	2	2		12
supervisor 1			supervisor1		
total 9				8	12

B) Teacher's ability development

- Teachers tend to show higher satisfaction on capacity development programme through invitation course, especially theoretical knowledge and professors lecturing methods' satisfaction were very high.
 - In survey on ten teachers, practice capacity, theoretical knowledge, professors' method, curriculum development, textbook development and etc had been asked of its satisfaction rates, which were responded to be effective in helping develop capacities with over one half.

- Whereas satisfaction rate on capacity development through sending experts were high, specific contents' satisfaction rates were relatively low.
 - With one half positive response to practical capacity, theoretical knowledge and professors' method, only two and three positive responses were present on text development and training material development respectively.

<Table III-18. Survey question on Competency>

Was the KOICA project helpful to improve your competency?								
	invitation course				sending expert			
	Yes	No	N/R	Total	Yes	No	N/R	Total
practice capacity	10	0	0	10	10	0	0	10
theoretical knowledge	9	1	0	10	6	2	2	10
professors' method	7	1	2	10	5	2	3	10
textbook development	6	1	3	10	2	4	4	10
training material development	4	3	3	10	3	2	5	10

(9) Capacity enhancement through TCT course

- 6 out of 11 Kafr El Zayat training center instructors have participated in 2 weeks course provided by TCT. New staffs participated at least twice. On regards to effectiveness of course, new staffs were very satisfied and former workers showed disappointed feeling that were not as good as expected.



4. Sustainability

- This is to assess the ability of the project to maintain in the future and how long the impact would last.

1) Curriculum and textbook

- Since curriculum has to meet the industrial demand, when the industrial atmosphere changes, the curriculum also changes. Therefore, the curriculum is flexible with continuous update.
- The curriculum and textbook developed by the project are now applied in four job training centers which KOICA supports, yet along with the dynamic innovation in auto industry, this sector needs new knowledge and skills with constant update adjustments.
- Through the project, PVTD developed curriculum and textbook on automobile maintenance field, and built cooperation system with various interest groups. This implies future capacity of developing its own curriculum and textbooks in this evaluation.

2) Profit seeking business models

- The profits of four vocational training center which KOICA supports varies according to <Table III-19>, the needed finances for center management does seem to be supplemented to where needed. Each center is planed to its continue short-course, and to vitalize its management is seeking enhancement in teacher's capacities.
- Each center plans to run automobile maintenance center, yet two problems needs to be solved. First, securing skilled workers with experience; Second, ensuring incentive for training instructor's participation.

<Table III-19. KOICA supported vocational training center's own income (2008~2013)>

(Unit : L.E.)

		Shoubra	Alexandria	Embaba	KEZ
short-term	term	2009~2012	2008~2012	2008~2010	2010~2012
	income		995,625	180,600	61,300
Maintenance	term	x	x	2009	x
	income			2,779	
etc		x	x	9,950	
Total		591,100	995,625	193,329	241,300

3) Teacher training center

- Training center for Teachers (TCT) established in Shoubra vocational training centers well placed for its conduct, and along side PVTD, it expanded various groups to accompany training.

- TCT is an outstanding center in Middle East and desires to enhance capacities of instructors by cooperating with businesses. Additionally, plans of issuing certificates to the trained is underway to contribute to their lifelong job ability development.
- In current evaluation of established TCT for automobile mechanic and instructor development, it is highly marked to be sustainable.

4) Shoubra job training center etc. post-management

- In regards to Shoubra job training center and auto mechanic training center, the project supports by establishing inspection and surveys to conduct post-management activities.
- In survey of current usage of resources, consideration of repair, additional supply had been made. Engineering experts were placed to educate resource management and its applications.
- Some equipment resources are inspected to be rusting and numbers of malfunctioning tools and parts are detected. Training equipments are not for permanent use, presenting limits of continues use.

5) KEZ job training center

- In the survey on instructors as subjects, six out of ten are evaluated to have enough qualification in contributing to the development of job training center.

<Table III-20. Survey question on development of VTC>

Does the Center have enough resources for further development?		
	frequency	percentage
1(yes)	6	60
2(no)	4	40
no response	0	0
total	10	100

- KEZ Job training center does not have an official programme for developing the capacities of its instructors. According to the survey done on instructors, they are individually learning and supplying themselves through books or internet.
- Four out of ten responded positively that the center had a programme or a seminar to enhance capacities of instructors.

<Table III-21. Survey question on internal seminar or training program>

Does the Center provide an internal seminar/training program to upgrade your instructional skills?		
	Frequency	Percentage
1(Yes)	4	40
2(No)	5	50
No response	1	10
total	10	100

6) Local perception on Job training center

- In the survey of local perception on job training center from the project, 86% of instructors and 90.5% of students have positively answered that the center is an excellent facility, which may imply positive affects on its sustainability.



5. Cross-cutting Issues

1) Gender

- In initial stage of supporting Egyptian automobile maintenance job training system, no reference had been made on subject of gender. Currently no female student is enrolled in KOICA supporting job training centers, nor in the past. It is recognized as implying that the automobile maintenance engineering may be traditionally man's job.

2) Environment

- Under the project, establishing a material facility had been done with limits as to such; former center maintenance, small-scale expansion. Therefore, no negativity on environment is seen without any difficulty in reaching for water, electricity, and waste dispensing of the center due to its location within city site.
- Facility renovation, workshop establishment, and etc need environment safeguard devices. These considerations did take during process of the project.

3) Human rights

- As the project was based on "Needs Approach", not "Rights-Based Approach", it is inappropriate to directly evaluate how much the project was implemented abiding by the human rights principles and standards.
 - For the differences between the Needs Approach and Rights-Based Approach, refer to <Table III-21> below.

- In light of human rights suggested by the UN, limitations of the project can be illustrated as below.
 - Three types of human rights are suggested by the UN i) Equality and Non-discrimination, ii) Participation and Inclusion, iii) Accountability and Rule of Law ³⁾.
 - For the development cooperation project to conform the human rights principles, required information and data should be analyzed from the preliminary research stage, yet these were omitted.
 - In other words, segmentalized stakeholder analysis on gender, income, race, ethnicity, age, language, religion, and political positions, direct cause of issues including structural and fundamental causes had to be analyzed though these were neglected the preliminary feasibility study.
 - The participation of stakeholders should be guaranteed during the implementation stage, and accessibility on information as well as capacity development of 'right-holders' (local residents including students and parents) should be raised to make it meaningful and active. This project, however, was comprised of the participation and capacity development of duty-bearers' such as Egyptian government officials and VTC people concerned.
 - Although analysis should be made on whether the structural or fundamental issues were solved in the performance part, this project did not define those issues

3) United Nations Development Programme. 2012. Mainstreaming Human Rights in Development Policies and Programming: UNDP Experiences. NY: UNDP

beforehand, nor did they intend to solve it. All in all, it is hard to conclude that this project has cured the fundamental and structural issues.

<Table III-22. Needs Approach and Rights-Based Approach>

Needs Approach	Rights-Based Approach
<ul style="list-style-type: none"> • Input and output centered 	<ul style="list-style-type: none"> • Process and outcome centered
<ul style="list-style-type: none"> • Satisfaction by needs 	<ul style="list-style-type: none"> • Rights realization
<ul style="list-style-type: none"> • Needs as an effective demand 	<ul style="list-style-type: none"> • Requests as an individual or a group on duty-bearers
<ul style="list-style-type: none"> • Individual as a target for a development program 	<ul style="list-style-type: none"> • Focus on individual and group to relialized its requests for rights
<ul style="list-style-type: none"> • Individual as the one who deserves aid 	<ul style="list-style-type: none"> • Individual as rights-bearers who deserve aid
<ul style="list-style-type: none"> • Focus on direct handling of issues 	<ul style="list-style-type: none"> • Focus on structural and fundamental issues

Jakob Kirkemann Boesen and Tomas Martin. 2007. Applying a Rights-Based Approach: An Inspriational Guide for Civil Society. Copenhagen: The Danish Institute for Human Rights.



IV. Conclusion and Recommendations

1. Evaluation Results and Lessons Learned
2. Recommendations
3. Requirements of Post-project Management



1. Evaluation Results and Lessons Learned

1) Efficiency of human resource utility

- The mark of evaluated project, its degree of human resources input was far greater than those of regular job training support projects. It is designed for maximizing project effect by establishing automobile job training system in connection with formal projects.
- However, the evaluation revealed to attain the system establishment in poor fashion, and the faults are seen to be related in partial expertise sent to promote the project. The experts of conduct was from engineering sector and had not participated in other field; labor market analysis, management, curriculum development, finance, etc.

2) Necessity of constant development of instructor's ability

- The importance of constant capacity development of training instructor has been identified through this project evaluation. Not only for the quality of education training but also for short-term profit projects.
- Especially, Master Trainer's capacity development is important, who manages enhancement training of training instructor. It is hard to expect participation from instructors if Master Trainers capacity is not greater than them.

3) Problems of similar supports in the same region

- TAs a result of evaluating four of job training centers supported by KOICA, overlapping service institutions; Shoubra job training center and Embaba job training center, generates competition between the two.
- Embaba job training center's short-term training course has been closed since the support of this project to establishment of Shoubra job training center. Although clear causation is difficult to define, it is seen to have happened in absence of differentiation between the two.

4) limits of job training project post-management

- Post-management of Shoubra job training center and supported job training centers has been implemented through the project.
- When surveyed, the centers have reported rusting and malfunctions of equipments, which shows that the post- management of equipment resource focused project are temporary.

5) Lack of management in education training performance

- All four of KOICA supported job training centers lack management in education training performance. centers did have data on current and graduate student numbers, yet did not have any result data of their employment afterwards.
- In order to amend its quality of education, securing data on graduate students' employment is a must through tracer study to find out whether they got the related job or if the center training helped. These findings must be applied to the adjusting process to have adequate feedbacks on the curriculum.



2. Recommendations

1) changing the project into policy reform project

- Although assisting resources may be relatively small, South Korean experience in developing is abundant, which places us in better position to yield higher performance with small cost. Therefore, future KOICA supporting projects need to consider the below states.
 - In the case of popular support project, which similar projects repeatedly be supported, the recipient country can deal with it autonomously. Therefore, unconditional aid measures need to be limited to cases of political, diplomatic or humanitarian purposes.
 - Rather than external aspect such as facility, equipment, the focus should be on the recipient organization's policy and management system and the criteria of support should be on where there are needs of help in technology, know-how or experience than material aids.
 - Since the effect of policy and system improvement needs to be nation-wide in order for developing countries to succeed in innovation, it is recommended to do on projects that aim in national scale rather than on micro regional basis if possible.

2) Expansion of expert participation on job education training system

- Expansion of expert participation on job education training system is needed for improvement on overall training including the support project. Participants of past project were generally engineering experts, whose main works were on counseling installation of equipments and establishing curriculum and textbooks. As a result, certain improvement in education have been made, however, the management of the center and the overall job education training system was in less contributed by it.

- policy experts on job training should analyze the labor market and job training policy of recipient country on the planning stage to implement various consultation with interest groups providing counselling on technological aspects, which leads to effectiveness. Job education training expertise include labor market analysis, skills standards development, education curriculum development, management of curriculum, center management, training instructors and evaluating centers.

3) Assignments on applying profit model project

- Securing finance for sustainable development in job training center is the most important task. Yet, the recipient country lacks management budget and capacity, which implies low sustainability.
- For the sustainability of the center counseled interest groups to take short-term course of management. However, in order to do so, pre-solve needs to be done; in other words, reasonable income distribution, ensuring incentives for instructors and capacity of expertise.

4) Overall evaluation on Egyptian automobile job training project

- the project supports automobile maintenance service and job training, of which Egypt had been supported four similar projects. Although it is not a purpose of politics, diplomatic, nor humanitarian, there had been repetition of conduct on certain sectors. Also, all four of job training centers share the characteristics of its specialty, the automobile industry.
- It is necessary to evaluate all four centers and compare KOICA supported center with other PVTD job training centers and tech high schools.
- Along with it, evaluation on adequacy, effects, sustainability all needs to be checked to define necessity of supporting in the future.

5) need for cooperation with other organs

- The direction of TVET development and execution desired by recipient countries is to be demand-driven, market fitting, flexible, career development, lifelong education and etc; aiming for integral TVET system.
- There are numbers of advanced international organizations which wants to help improve TVET system. Although they have various different programme, in common they attempts to build integral TVET system along with Egyptian national policy.
- In future, South Korea also needs to cooperate with international organizations or other giving organs who has experience building integral TVET system.

6) associating conditional aid

- When it is building a facility or maintenance work which includes equipment resources, job training center support project cost a lot. Even after project termination, cost of management and equipment maintenance and replacement is required. However, recipient country lacks capacity to manage the budget, which often leads to inefficient management after project termination.
- Hence, when designing support project on job training, long-term plan from building facility to post-project plan needs to be established and distribution of responsibilities among conditional aiding organs and NGOs will increase effectiveness.



3. Requirements of Post-Project Management

- 1) repair and reinforcement of equipments in four centers which KOICA supports
 - Conducted periodic post-management on four centers of KOICA support
 - Established post-management plan after surveying equipment conditions and usage status
 - Malfunctioning equipments and parts repair and reinforcement to promote higher application
 - educated instructors on maintenance of equipments

- 2) reinforcement of instructor's capacity
 - lifting the quality of job training center provided education and sustaining project effectiveness, developing instructor's capacity is the most important.
 - For developing instructor's ability, KOICA supported TCT is applied to give opportunities. In other words, South Korean developed training programme, automobile mechanic, and expert sending on TCT will be provided to instructors for their enhancement.

- 3) reinforcement of job training management capacity
 - Enhancement of management ability of PVTD and training center managers' needs to be made.
 - PVTD needs to establish cooperation system with industries for making training to meet the demands from industries.
 - PVTD should build performance management system and manage students career and analyze them.
 - job training center managers should have business mind to achieve sustainable development for education and industrial cooperation and active profit project.

 - customized education programme for PVTD and training center managers' capacity enhancement needs to be developed.



Appendix

1. General Situation in Egypt
2. The current state of TVET in Egypt



Appendix 1. General Situation in Egypt



1. Economy in Egypt

1) The Current States of Economy

- The Republic of Egypt is an Arab country which is located in Northwest of Africa, population eighty four million (estimated in 2012), and maintains territory five times bigger than Korea (95% of the territory is desert).
- The annual GDP is at 4,966 billion dollars (based on the purchasing power is at \$6,319 billion), and GDP per capita is at 2,789 dollars (based on the purchasing power is at \$6,800). According to the figures, Egypt is categorized in a developing country.
- In GDP, the amount of agriculture consists of 13.8%, industry is 41.1%, and service industry occupies 45.1%. Therefore the gravity of service / industry are very essential.
- The main products of export are petroleum goods, cotton, aluminums, and agricultural products. And the main importation products are machinery and its parts, foods, lumbers and fuels. The major natural resources are petroleum, natural gas, iron ore, phosphate rock, manganese, lead and zinc.
- The growth percentage of GDP in 2011 recorded at 1.8%, however the inflation of the same year reached at 11.2%, that is, Egypt is in hyperinflation.



2. The analysis of labor markets in Egypt

1) The overview of labor force

- Egypt has included as high-population countries among the world, especially the most biggest population in Arabian countries, and the third biggest countries among in Africa. The population of Egypt in 2012 was estimated approximately 84million, and was assumed about 1.9% of the rate of population growth (by US Census Bureau).
- About 23.5% of the population, that is, more than 20million are in the 18 to 29-year-old age group. The median age is 24.3 years old; the country maintains the young population structure.
- The labor force of Egypt in 2011 recorded at 27.7million which was increased at 6.4million from 21.3million in 2005. One of exigent issues in Egypt is the percentage of high youth unemployment; however the labor force is expected to grow. The estimation of the annual influx of labor is at approximately 850,000 people.
- Not only the growth of population, but also the scale and the number of employments are continuously increased. Yet, the rate of participant in market over fifteen years old is recorded as low as 47.7% (Male 71.1% Female 23.2%), especially the situation for female is dull.

2) The employment structure per industries

- According to the employing structure per industries in 2010, agricultural employees were about 28.2%, industry consisted of 12.3%, construction industry was 11.3% and service industries formed 57.2%.

3) High rate of unemployment

- The government of Egypt announced the rate of unemployment at 12.4% in March of 2012, but the substantive percentages are estimated over 20%. The unemployment rates are more increased due to the crisis of economy in the aftermath of the revolution in 2011.
- Overall, the state of unemployment in Egypt is characterized as the combination of confrontation, structure, and recursion.
- Moreover, the youth unemployment rate, between 15-29 years old, consists 80% of the total. It is originated in inadequate training system for fostering innovative, creative and qualified employees.
- The low-growth and high rate of unemployment associates with drop in labor productivity and income level. In terms of education, it comes from the unbalanced opportunity and the exam-oriented. The improper perspectives towards techniques, professional and insufficient curriculums are the primal issues upon it, and it derives from the unemployment of graduates and the deepening poverty.



Appendix 2.

The current state of TVET in Egypt

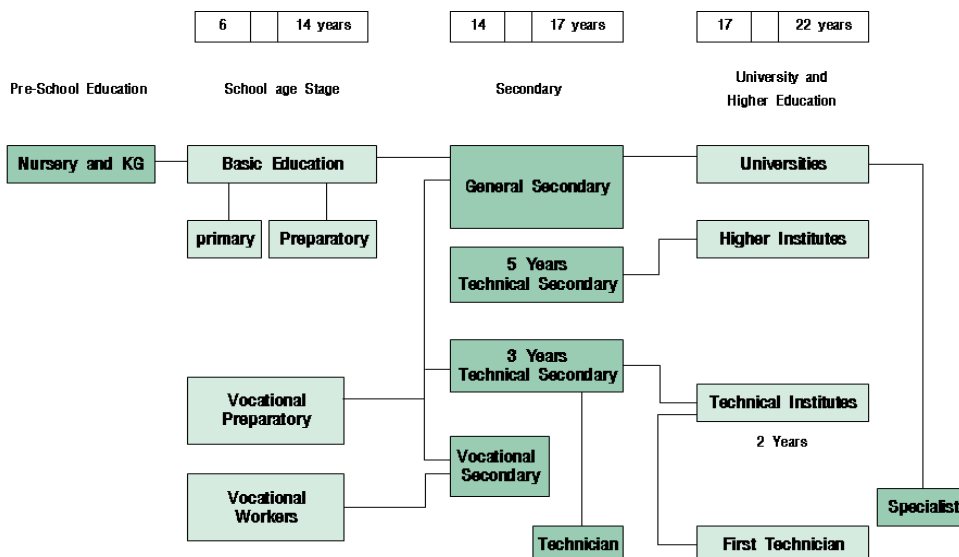


1. The system of education

1) The system of school education

- The system of education in Egypt consisted of Basic Education (9 years), Secondary Education (3 Years), and Higher Education (2 to 7 years). [Table 2-1] shows the entire structure of educational system of Egypt. Ministry of Education supervises the Basic and Secondary Education, and Ministry of Higher Education superintends the system of Higher Education. The entire courses of public school are free education.

<Figure A-1. Education system of Egypt>



2) Primary Education

- In Egypt, basic education includes primary education and preparatory education, provides as compulsory. The period of primary education consists of three years of two levels, and students who complete each course get completion certification.

3) Secondary Education

- Secondary education takes three years and divides general, technical and vocational secondary. Students who completed the general course and passed the exam get the certification of general secondary education.
- Technical education is divided according to open types of occupations and also categorized by two levels as three-year and five-year courses. Three-year course of technical secondary school aims to foster technicians. Five-year course aims to train students for higher institutes. At the end of both courses, students takes exam, and those who passed the exam are able to get the certification. Al-Azhar, the religious education, seeks identical courses with general education according to the assigned period for each institution; it puts emphasis on the study on Islam.

4) Higher education

- Higher education is provided in universities or higher technical institutions. Students, who graduate general secondary depending on the academic record, or who graduate three-year technical secondary, are required to the admission test score (similar with ACT). According to the processes, they are able to be admitted into the university.
- Five-year course of technical secondary graduates have benefit to transfer into university as sophomore without test.

- Under the higher education system, there are two-year course of technical institute, and four to seven-year universities and higher institute.

5) Performance of education

- The nation guarantees the public education for free of charge, however, according to the three-year survey in 2011, 11% among the 18 to 29 age group replies that they have never been to school. Also in 2009, the non-government population association found out the differential between sexes, and between urban and rural students. This survey showed four-fifth was female among who have never experienced educational opportunity, and children in rural area charged high amount in wastage rate or have never experienced in education.
- For the last forty years, the index of the level of education in Egypt has been improved. According to UNESCO, the enrollment percentage of elementary school achieved approximately 95% in 2011 from 62.8% in 1970. Moreover, the country has struggled with illiteracy, but the rate of literacy over 14-year-old has improved at 71.4% in 2005 compared to 44.4% in 1985, and the same rate between 15 to 44 years old also achieved 86.2% in 2007 from 73.2% in 1996.
- Nevertheless, the total illiteracy rate occupies high as 29%. Egypt still possesses problematic issues on interregional and intersex disparities in education.
- The most primal change in Egypt's educational system associates with the growth of advanced education. The amount of university students grew 42,485 in 1952 to 500,000 in 1977. At present, over 2.5 million are in university, that is: it consists of one-third parts of the age group.
- Although the number of public university has mounted from four to eighteen

(privates are seventeen) In last sixty years, the amount of total students enrollment is not sufficient.

6) Management of education

- Ministry of Education prepared the National Scheme (2007-2012) of educational reforms in Pre-University Education. This plan contains proposals of developing standards-based curricula, and improving the consistent study and evaluation.
- This plan also asserts the necessity of investment in improving professional ability of teachers and trainers, and the reformation of teaching method in order to attain the level of international standards. Moreover, it demands for supporting the teaching-learning method, for reforming the facilities and the equipment in secondary institution and for using more IT in order to improve the educational management system which is constantly decentralized.



2. Education of vocational training

1) The system of education of vocational training

- Ministry of Education and Ministry of Higher Education takes charge of The training of vocational education. At the state level, vocational training is recognized in the sense of integration and complementary for the technical education.

2) The current state of education of vocational training

- Technical Secondary School or TSS, the program after the ninth grade, is divided as three-year and five-year course including industry, business, and agriculture. The greatest number of students is on the roll of TSS among the whole TVET institutions in Egypt. The rate of TVET enrollment among the high school students occupies at 30%.
- Ministry of Higher Education manages technical institute included in the category of university. These institutions are two-year course. Students from general secondary or technical secondary can apply to these institutions, but the number of enrollment is relatively low. The graduates from curricular by Ministry of Education are also able to start the course of vocational training.
- Ministry of Education is the primal TVET provider, and manages industrial, business, agricultural, and dual courses among 1,300 Technical Secondary School. (This figure is expanded, if schools run different courses among these four, into 2,000 TSS). The amount of enrollment is over 15million on three-year training diploma or five-year advanced training diploma courses.
- <Table A-1> presets the number of students who enroll the secondary technical track during 2000/1-2001/10. Most of TVET graduates directly enter into the labor market, on the contrary, the opportunity for proceeding to advanced education is truly limited (Approximately 5%).

<Table A-1. The number of students in school by field, 2000/1 -2009/10>

School by field	2000/2001	2001/2002	2002/2003	2003/2004	2004/2005
Technical high school	845,571	933,689	983,760	1,048,495	1,054,597
Agricultural high school	203,071	225,750	252,657	251,261	249,867
Commercial high school	870,505	975,427	951,730	882,416	784,940
Total	1,919,147	2,134,866	2,188,147	2,182,172	2,089,404

School by field	2005/2006	2006/2007	2007/2008	2008/2009	2009/2010
Technical high school	1,002,103	909,241	686,729	970,060	958,020
Agricultural high school	224,193	186,455	141,317	123,484	123,562
Commercial high school	748,940	706,276	519,470	475,197	472,952
Total	1,974,391	1,801,972	1,347,516	1,568,741	1,554,534

(Source : MOE, Technical Education Strategy, 2011)

- Productivity and Vocational Training Department, PVTD under the MoIFT, which is not supervised by Ministry of Education, also has managed vocational training program since 1950s. If student completes the program, it also confers diploma certification by Ministry of Education that is appreciated for TSS diploma. In 52 vocational training centers in the entire nation, about 25,000 students are enrolled. Aside from this long-term program which is regarded as a type of vocational training, PVTs also provides short-term course to employer/employee in public and private sectors.

- In the level of higher education, there is middle technical institute, MTI which is integrated from eight regional technical colleges and managed by MOHE. TVET system also includes four-year industrial education colleges. IECs, which foster teachers for the technical high school, are only allowed for the technical high school graduates (3/5-year course) and industrial technical

institute graduates. Generally, post-secondary vocational education, PVE categorizes into eight sections (referring <Table A-2>). All PVE institutes confer two-year course diploma, only IECs grant a bachelor's degree after four-year course.

<Table A-2. Categorization of PVE institution>

	Institution	Public/ Private	The number of institution	The number of student	Enrollment rate
1	Technical Colleges	Public	45MTIs (8colleges)	73,952	58.03%
2	Technical Health Institutes	Public	12	16,678	13.09%
3	Technical Nursing Institutes	Public	17	2,565	2.01%
4	Other Technical Institutes	Public	2	277	0.22%
5	Private Middle Institutes	Private	13	13,868	10.88%
6	Worker University	Private	11 branch schools	13,406	10.52%
7	Integrated Technical Education Cluster (ITECs)	Private	1	227	0.18%
8	Faculties of Industrial Education Colleges (IEC)	Public	4	6,467	5.07%
Total			105	127,440	100%

- It is remarkable that the technical high school (or vocational high school)'s 5-year program graduates can have corresponding degree and level with technical college graduates.
- In terms of the number of students and school, the vocational training managed by Ministry of Education is regarded as the most outstanding course, but it is the least efficient on the side of outcomes and mostly focuses on social integration or TVET rather than the possibility of employment.
- On the other hand, TVET possesses middle-level technical institutions; other

departments established institutions in order to provide specific vocational training for their own sectors. Another types have a distributive training (as dual course and apprentice training), an incumbent centered program and a retraining for an incumbent and the unemployed as well.

- Early part of vocational training program provides 480,000 trainees in a year from 823 VTCs (Public center 600, Private or half- private 223) which is supervised by various sectors' department. About 600 public vocational training centers are divided into 317 formal or regular training centers, which award the technical diploma after a year and provide long-term training course, and divided into 283 informal centers, which provide only short-term training, less than a year. (<Table 2-3> Public Sectors)
- 233 private sectors' VTCs are classified as 218 informal training centers and five formal centers and schools. In 2010, these centers provide training to approximately 700 students and 51,000 students in each formal and informal program. (<Table 2-3 Private Sectors).

<Table A-3. Categorization of PVE institution VTCs distribution by Institution in 2010>

Public	Formal			Informal		
	Training Center	Trainee	Teacher	Training Center	Trainee	Teacher
Ministry of Health and Population	213	33,825	3,236	7	10,557	82
Ministry of Petroleum and Metallurgical Wealth	1	191	10	1	10,488	2
Ministry of Transportation	5	1,042	137	26	69,513	1,393
Ministry of Electricity and Energy	4	1,730	283	20	25,463	535
Ministry of Social Solidarity	17	2,471	266	48	9,471	398
Ministry of Housing and Urban development	3	813	44	65	28,211	1,053

Ministry of Industry and Trade	50	17,982	1,444	21	38,053	444
Ministry of Culture, Ministry of Information	8	1,193	145	5	2,885	262
Ministry of Tourism	5	2,156	90	2	729	83
Ministry of Defense and Military production, Ministry of Interior affairs	2	6,315	51	7	44,909	712
Ministry of Agriculture and Land Reclamation, Ministry of Irrigation and Water resources	1	90	8	14	5,497	151
Ministry of Finance, Ministry of State for Local development	0	0	0	3	44,171	243
Presidential service	2	68	35	13	32,550	258
Other service	5	1,585	105	51	37,091	822
Total	317	69,461	5,854	283	359,588	6,438

Private	Formal			Informal		
	Training Center	Trainee	Teacher	Training Center	Trainee	Teacher
Ministry of Social Solidarity certified NGO, private VTCs and school	5	688	44	218	51,539	1,049
Sum Total	322	70,149	5,898	501	411,127	7,487
The whole number of trainee	81,276					
The whole number of teacher	13,385					
The whole number of training center	823					

3) Structure and management of vocational training

- TVET in Egypt is a comprehensive term only understandable as to lifelong study. This term contains secondary and high school, PVE's technical training after the secondary course, vocational education and training, and continuous training and retraining. Traditionally, however, the concept and the system of vocational education and training are separated.
- Most crucial dispositions for distinguishing the TVET in Egypt are complexity, the lack of distinct leadership and highly fragmented system of educations and trainings. These defects are attributed to two departments of education (Ministry of Education and Ministry of Higher Education) and the other seventeen departments' vocational training systems.
- These seventeen ministries and agencies under the ministries (Industry and Trade, Housing and Urban development, Manpower and Immigration, Health and Population, Culture, Tourism, Transportation, Electricity and Energy, Maritime transport sector under Ministry of Transportation, Defense and Military production, Interior affairs, Irrigation and Water resources, State for Local development, Awkaf, and Social solidarity) are affiliated.
- Aside from these departments, Supreme Council for Human Resource Development (SCHR), National Authority for Quality Assurance and Accreditation in Education (NAQAAE), Training Councils, and Social Fund for Development (SFD) are also included.

4) The problem of vocational training

(1) Insufficient training courses for fulfilling labor market's demand

- That is to say, the programs of vocational training are inadequate with actual types or qualities of industrial field and its demand. The programs are lack of contemporary advancement. Not only It cannot trace the on-going technical development, but it also overemphasizes on theory and disregards the practice. Consequently, graduates from vocational training institutions are not sufficient in basic knowledge and ability; they are not qualified in the field.

(2) Low quality of Teachers

- Teachers of TVET must be experts of teaching and technique. However, most of teachers at TVET in Egypt are lack of modern teaching-learning method and expertise; specifically they are not able to lead the practice. On the other hand, there is no opportunity for them to cultivate abilities. This issue is also associated with the absence of motivation by the teachers who desire for providing the advanced lectures. Their low wage results in finding second job. Therefore, in order to enhance the quality of lecture, financial incentive system should be reinforced.

(3) Deterioration of materials and equipment

- A lot of materials and equipment at the institutions are very obsolete. Places for training practice such as laboratory or numerous and diverse materials are deficient. Especially most of the training materials are faced to repair or purchase. Even though the facilities or equipment are new, there are lack of materials or proper teachers who can use them. Because of these, proper practices are not taken effect in real.

(4) Inappropriate evaluation and examination for students

- That is, the government of Egypt is not sufficient for inventing and managing the whole system of evaluating students' knowledge and abilities. In other words, whether students can acquire skills or satisfy the standards of employment or not, there is no measurement to prove it.
- The certificate or diploma from the institution of TVET is not functioning as a measurement. The absence of proper certification of ability associates with declining quality of skill. Employers are not provided by advanced techniques. Overall, the institutions of vocational training at public sectors supply the low quality training process, and this causes degradation of national and business competitiveness, and low quality in labor power.

(5) The fragmentation of vocational training institutions

- In order to manage the training program, over twenty departments are associated. In the matter of fragmentation, the related problem is the absence of national organization taking responsibility for conducting and improving the program. Accordingly, there is lack of mediation between the vocational training departments. Each institution autonomously decides the content of the program, condition, period (2,3 weeks to 4 years), curricula, and standards of exam so on. In fact, the quality of the training program is considerably different depending on the institutions.

(6) Low recognition about vocational training education

- TVET has potentiality to enhance the national competitiveness, to contribute to social equality and solving the unemployment issue. However, TVET has substandard images and only has been seen as a method for adjusting the failure of general education and for a social inclusion. Therefore, in order to improve the image of TVET, it is required to change the current mind-set that

regards TVET as a mere control panel for mitigating the pressure of admission to university, into thinking of the system as an appropriate method to provide labor in market.

5) The policy of vocational training

- The government of Egypt developed the scheme of TVET for twenty five years in May of 2009. Through the process of discussing, this scheme has consisted of eight parts, and inserted practical articles and mediation plans. This scheme has been remained as a symbolic meaning because not only has it no practical or resource distribution, but also it has not clarified where the responsibility for suggesting changes lies.

The Center and Aim of TVET Scheme in 2009

- The integration and adjustment of the system of education and training
- The improvement of the quality in order to attain the international standards
- The development and application of the system in market place information
- The establishment of tactics accompanying labor sector
- The invention of approach to lifelong education
- The cultivation of recognition about the value of TVET
- The diversification of TVET fund
- Study and corporation of TVET to local, national and international degree.

- In early 2010, Government of Egypt pronounced a plan for committing to framing the NQF upon NQF's advice (T/F). Thus, the agency for developing task under the NQF has transferred to National Agency for Qualifications and Quality Assurance in Education, NAQAEE. The new design of NQF, as a result, has possibility to pursue participation and emphasize on consulting in order to secure the enthusiastic devotion from interest parties.

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