

업무자료
평가심사 2014-39-062

ISBN 978-89-6469-227-1 93320

2014

업무자료 평가심사 2014-39-062

발간등록번호

11-B260003-000333-01

Ex-post Evaluation Report on the Project for Upgrading Auto-Maintenance Vocational Training Center in Embaba, Guiza

2013. 12

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한국국제협력단



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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

The project for Upgrading Auto-Maintenance Vocational Training Center in Embaba, Guiza

2. Evaluation Results

A. Relevance : (2) 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.
- However, conformity is not high considering priority given to low-cost and generalized projects, because a similar project was already implemented in the project site. Relevance of planning is relatively low to achieve the ultimate outcome.

B. Effectiveness/Impact : (2) Partly negative

Major Reasons

- Provided equipment is properly used and well-operated.
- Curriculum and textbooks developed in the project were used only for two years due to low suitability for industry demand.
- Profit-making activities including short-term course and Center for automobile maintenance were introduced by dispatched experts. The activities were suspended after operated for a certain period of time from the end of the project.
- Although teaching ability of trained teachers was improved by the project, additional capacity building is still required.

C. Efficiency : (3) Efficient

Major Reasons

- The project is completed within planned budget in a timely manner.
- Useful project techniques were applied because the project included indispensable components for TVET projects such as skill instruction and advice on management know-how.

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

- The project for Upgrading Auto-Maintenance Vocational Training Center in Embaba, Guiza

2. Main Results of Evaluation

- This is an ex-post evaluation for project for Upgrading Auto-Maintenance Vocational Training Center in Embaba, Guiza by KOICA from 2007 to 2008. 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').

(3) Relevance of Selection of Target Training Center

- The selection of the target beneficiaries was appropriate considering that the recipient country had low employment rates, and the demand for intermediate skilled manpower.
- However, the selection for the project area was inappropriate since it was closely located to Shoubra VTC which was established by KOICA in between 1996 and 1998.
 - Under such a circumstance that two closely-located VTCs are in operation at the same time, it is expected to bring intense competition within the community due to the duplication of educational services they provide.

(4) Relevance of the Project plan

- There are differences among documents in each work process (Feasibility study, Agreement for the project, Record of Discussions, Action plan on the project, Interim evaluation) regarding the project purpose. It is hard to find logical relations among outputs, initial outcome, and ultimate outcome in PDM.

(5) Harmonization with Other Donor Agencies

There was not enough discussion about this project with other donor agencies or countries, and as a result the project lacked a long-term perspective approach.

□ Effectiveness/Impact

(1) Evaluation of Output

- This project produced all the planned outputs such as improvement in the training center's educational environment, development of a new curriculum and teaching materials, and a master plan for the training center.

(2) Achievement of the Project's Effectiveness

- Student Enrollment Rate
 - Embaba VTC is a three-year course VTC, and runs two departments (automobile maintenance and car body repair). Enrolled students are 405 in 450 as of 2013. Given 90 percent enrollment rate, it can be said that the aim was achieved.
- Quality and Usefulness of Developed Textbooks
 - Five kinds of first-year textbook developed by this project were approved by PVTD, and distributed in 3 KOICA-support VTCs after publication.
 - The textbooks were used for 2008-2010 in Embaba VTC (It is shown that utilization of the textbook was low by 64 percent according to End-of-project evaluation report on the project)
 - It is found that 4 KOICA-support VTCs including Embaba have used the textbook developed from "Program for the Improvement of the Automotive Vocational Training System in Egypt (2008-2012)" by KOICA after this project.
- Usefulness of Provided Equipment
 - Approximate use rate of equipment can be examined by the survey because there is no log book for equipment in the VTC.
 - In the survey on teachers, 63 percent of the respondents showed positive answers for equipment use, with average 3.6 point on a five-point scale.
 - In the survey on students, 88 percent of the respondents answered positively for equipment use, with average 3.9 point on a five-point scale.

- Teacher Capacity Enhancement
 - According to the survey on teachers, invitation of trainees and dispatched experts were helpful to enhance training teachers' capacity.
 - 9 out of 11 responded that invitation of trainees was conducive to theoretical knowledge and teaching method. 7 respondents answered that the invitation was helpful to curriculum and training material development.
 - 8 out of 11 responded that expert dispatch was conducive to theoretical knowledge and teaching method. 6 respondents answered that the dispatch was helpful to curriculum and training material development.

- The Level of Satisfaction
 - By and large, training teachers were satisfied with the VTC. According to the survey, 55 percent of respondents showed their satisfaction with the current condition of VTC. 100 percent of training teachers responded that they will work continuously in the VTC, indicating high satisfaction.
 - Satisfaction of students with the VTC was relatively high. Their satisfaction with space and utility were 4.82 and 3.9 point respectively on a five-point scale. Satisfaction with training equipment and curriculum were high, showing 4.1 and 3.84 point respectively on a five-point scale.
 - Students' satisfaction with teachers were high in a rough way. Their satisfaction with teachers' practical skill was 3.58, and that with teachers' theoretical knowledge was 3.24 point.

- Operation of Profit-Making Business Model
 - Short-term course operation : Embaba VTC provided short-term course (2 week course and 4 week course) aiming to workers in businesses and students in engineering colleges after the end of the project. However, there has been no showing of operating short-term course since February of 2012.
 - Automobile maintenance center operation : Maintenance center next to the VTC was opened in May of 2009 targeting on staffs of PVTD and the Korean embassy. It was suspended after 1 month operation.

- Employment Rate of Graduates

- The number of graduates : The number of graduates in Embaba VTC is 93 in 2013 (automobile maintenance 73, car body 20).
- The employment rate of graduates : It was reported that the employment rate of graduates was 60 percent in 2013, but it is unreliable because the VTC regards all graduates as the employed except for students going to university and joining the army.

□ **Efficiency**

(1) Actual Input Resources Compared to Plan

- All the activities were done within the time frame (2006~2008) and all the budget was administered appropriately.

(2) Efficiency of Project Management

- During the project, the scheduled resources and activities such as time, budget and man-power were carried out well in most aspects. The provision of equipment was delayed, however, due to facility renovation of the center.

(3) Efficiency of Input Allocation

- Budget compilation in this project was done by each component such as equipment provision, invitation of trainees, but it was baseless to allot the budget. Thus, it is difficult to figure out that budget allocation was reasonable.
- It is evaluated that budget equivalent to 2 million dollars was preallotment, not based on precise feasibility study.

(4) Efficiency of Project Implementation Method

- The noteworthy facts in this project are that curriculum and textbook development were included in invitation program; advice was not limited to engineering department management, but to VTC management; Reserve expense was used for purchase of additional equipment.
- It is highly evaluated in that the project included indispensable components for TVET projects such as skill instruction and advice on management know-how, and advice on post-project management strategy was given for sustainable development. Organized management and reporting was done for these activities.

□ **Sustainability**

(1) Financial Aspect

- The amount of financial subsidy that the center receives from the government is limited to minimum operational costs, which imposes financial constraints on the center's sustainable management.
- Two profit-making business models (short-term training courses and automobile repair shop) developed during the project are no longer operative.
- The results of survey revealed only 4 out of 11 teachers (36%) believe that the center is financially secure.

(2) Technical Aspect

- The number of enrolled students has increased from 336 in year 2010/2011 to 405 the following year. However, the number of entering students fluctuates very widely.

- It is found that the center failed to provide educational environment for teachers to enhance their capacity. Due to this insufficiency, teachers often rely on internet or books to access to information they need for teaching.
- It is shown that the VTC staff has technical capacity to maintain and repair equipment.

□ Cross-Cutting Issues

(1) Gender

- It is hard to find evidence of females' participation from the beginning of the project. This may be due to the fact that the vocational training centers are typically reserved for men.

(2) Environment

- Environment safety was considered and enough discussion on this issue was made during the project.

3. Recommendations

□ Recommendations for Future Similar Projects

(1) Provision of Differentiated Aid Strategy

- Low cost and generalized projects should be implemented only in case of political and diplomatic goal, humanitarian goal.
- By shifting from hardware-centric aid to technical cooperation such as policy and institutional improvement, it should be focused on projects able to have influences on national-wide scale rather than on projects for a certain institution in a certain area.

(2) Enhancement of Feasibility Study

- For the effectiveness of a vocational training center project, the feasibility study's role becomes critical. In the feasibility study for this project, it did not show sufficient analysis of TVET. In future feasibility studies, it is necessary to analyze the main issues and problems of TVET in recipient countries and suggestion should be made as to how these problems may be resolved.

(3) Prerequisite for introducing Business Model

- Business model is categorized into traditional business model and non-traditional business model. Traditional model means tuition fees earned from various training courses in TVET institutions. Non-traditional model is revenue yielded by sales of products from practical rooms and service provision.
- 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) Shift to Establishment of "Center of Excellence for TVET"

- Future similar projects should be more focused on the establishment of Centers of Excellence for TVET, in order to better enhance the development of the recipient country's vocational training system. Recently other advanced donor agencies are establishing a "Center of Excellence for TVET", rather than upgrading training center to high level institute, and it is used as a benchmark for other TVET centers. One of the characteristics is to provide high quality training related to employment and the demands of industry, and to do additional functions relating to cooperation with the existing TVET system.

□ Recommendations for Post Project Management

(1) Enhancement of capacity for VTC Teachers

- Above all things, It is important to develop the capacity of teachers for raising sustainability of project impact and quality of training in VTCs.
- TCT can provide an opportunity for teachers to improve their capacity efficiently. This means that systematic training program for teachers is developed in Korea, and automobile engineering experts are dispatched to TCT for improving VTC teachers' capacities.

(2) Enhancement of capacity for VTC Management

- There is a need for managers in PVTD and VTCs to improve their managerial capacity. Managers should set up cooperative system with the industry and communities in order for training contents in VTC to meet the demand of regional industry.
- Moreover, managers should introduce business model and industrial-educational cooperation with business-oriented mind-set for sustainable development of VTC.
- Customized education program is required to enhance managerial capacity of managers in PVTD and VTCs.



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 "The project for Upgrading Auto-Maintenance Vocational Training Center in Embaba, Guizat" 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 the project for Upgrading Auto-Maintenance Vocational Training Center in Embaba, Guiza. 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: The project for Upgrading Auto-Maintenance Vocational Training Center in Embaba, Guiza
- (2) Project Period/Scale: 2006~2008 (3 years)/ Two million dollars

(3) Project site: Embaba Vocational Training Center in Giza area, 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 the Embaba Center 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)

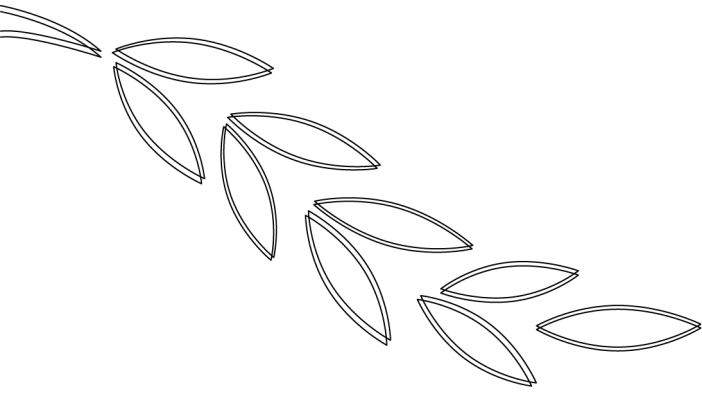
2) Process Details of the Project

Year	Item	(*in chronological order)
2006	• Feasibility study	
	• Agreement for the project	
	• Selection of PMC agency	
	• Shipment of equipment	
	• Start construction for improving facilities • Invitation of trainees(managers and teachers)	
2007	• Dispatch of experts • Completion of facility improvement • Completion of installation of equipment	
	• Interim evaluation	
2008	• Completion of project • Return of dispatched experts	
	• End-of-project evaluation	
2013	• Ex-post evaluation (05.28~11.27)	

3) Outline of the Project

<Table I-2. Outline of The project for Upgrading Auto-Maintenance Vocational Training Center in Embaba, Guiza>

Project Title		Korean	이집트 엠바바 자동차정비 직업훈련원 지원사업
		English	The project for Upgrading Auto-Maintenance Vocational Training Center in Embaba, Guiza
Division		Content	
Project Goal		<ul style="list-style-type: none"> To create jobs for the youth To develop the car maintenance industry and economy of Giza To facilitate the job creation by training skilled labors in the field of car maintenance 	
Categories	Korea (\$2 million)	Equipment	Equipments and miscellaneous items
		Invitation of trainees	<ul style="list-style-type: none"> Manager course: 3 people/3 weeks (2.25M/M) Teaching materials development course: 6 People/1 month (6M/M) Trainer course: 14 people/3 months (42M/M)
		Dispatch of expert	<ul style="list-style-type: none"> Chief expert : 1 person/1 year (12M/M) technical expert : 2 people/6 months (12M/M)
		Development of teaching materials	5 kinds of exercise textbooks
	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 / Giza area	
Period/Scale		<ul style="list-style-type: none"> 3 year (2006-2008): \$2 million Budget by year: 2006(\$870,000), 2007(\$1,000 million), 2008 (\$130,000) 	
Beneficiary		Trainers, students and residents reside in Giza	
Expected effect		<ul style="list-style-type: none"> Create jobs by producing well disciplined labors for car maintenance Facilitate development of local industries and economy 	
Implementing agency	Korea	<ul style="list-style-type: none"> Korea International Cooperation Agency (KOICA) PMC: Korea University of Technology and Education 	
	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 the Project for Upgrading Auto-Maintenance Vocational Training Center in Embaba, Guiza>

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
	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

Section	Standard	Evaluation Item	Remarks
	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 Embaba VTC, so that evaluation team could analyze the project from a diverse range of perspectives.

4) Survey of Embaba VTC Teachers and Students

- The survey was carried out on 11 teachers and 50 students of Embaba VTC. 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 (10 teachers and 4 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 the Embaba 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.

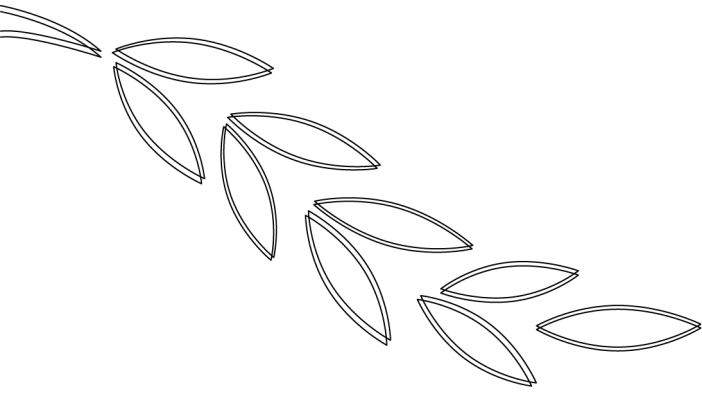
<Table II-2. Study items based on Evaluation Method>

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



III

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 process about whether to assist the project, the core plan relating to the development of the Egyptian government were (i) 21st century national strategy of social economic development (1997-2016), (ii) 5th five-year social economic development plan (2002-2007).
- The main task of this strategy and the 5y development plan was to revitalize the sluggish economy through liberalization focusing on stabilization which includes privatization, release of regulations, and financial reformation.
- As a series of acts to implement aforementioned core tasks, research had been conducted four times by World Bank, Education, Training and Employment Sub-Committee, and Economic Survey Forum from 1994 to 2000, and the results are as follows.
 - The most important factor for the economic liberalization, a precondition for economic growth, is skilled manpower.
 - The labor issues in terms of both the quantity and quality are one of the most restrictive factors, and these are gradually degraded.
 - The qualitative progress of the vocational training center is of importance.
- Accordingly, with assistance from World Bank, the Egyptian government established the Education, Training and Employment Sub-Committee (ETES) whose one of main objectives is to build the plan for Technical and Vocational Education and Training (TVET).
 - In this context, the main tasks for reformation suggested by the ETES report on June 2000 included (i) national occupational classification system, (ii) employment service (iii) labor market information, (iv) national technique qualification and probation system, (v) technical education and vocational training with implementing strategies.

- In 2002, the Egyptian government adopted the "Policy Statement on TVET" based on ETES, and delegated implementing authority of reformation strategy to SFD.
- Hence, "Policy Statement on TVET" is the highest level of policy document directly concerned with the target project for evaluation, and its details are as follows.

(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) Relevance of Selection of Target Area

- The selection of the target beneficiaries was appropriate considering that the recipient country had high unemployment rates, and the demand for intermediate skilled manpower.
- However, the selection for the project area was inappropriate since it was closely located to Shoubra VTC which was established by KOICA in between 1996 and 1998.
 - Under such a circumstance that two closely-located VTCs are in operation at the same time, it is expected to bring intense competition within the community due to the duplication of educational services they provide.

4) Harmonization with Other Donor Agencies

- Since development assistance agencies are interested in TVET, aid channels are found to be very active.

(1) The Mubarak-Kohl Initiative (Germany)

- Mubarak-Kohl Initiative (MKI) initiated in 1991. MKI was the first attempt to link the technical education with the demands from the industry and labor market in Egypt, and it was regarded as the cost-effective and successful labor-intensive TVET model. MKI, as a dual system or cooperative technical education model established through the technical cooperation with GTZ of Germany, aims to enhance market suitability of student training at technical high school. Transferred to the Ministry of Education and Egyptian partners from the private sector, MKI has been successfully managed and implemented. In May 2009, this system had trained about 24,000 students at MKI technical high school through the cooperation with 1,900 companies.

- Began in June 2007, MKI-vetEP is a continuous project of development cooperation between Egypt and Germany towards the MKI. Since this program raises the interactive employability between the youth and employers, youth employment is the priority.

(2) National Skill Standards Project (NSSP)

- NSSP is a joint project among consortiums of European donor agencies led by the Social Fund for Development of Egypt (SFD) and British Council. It was a 4 year project began in 2000, and extended to June 2005. The objective of the project was to raise the competitiveness of labors in Egypt to the international level thereby matching with the demands either from Egypt or international labor market. NSSP provided the fund amounting to \$5.5 million and L.E. 5.5 million.
- NSSP not only assesses the national skill standards, but establishes the processes for evaluation and acknowledgement of trainees. It targets the post elementary education level (equivalent to ISCE 1-3). NSSP created the national standards for about 105 types of occupation under 3 industries (manufacturing 59, tourism 24, construction 22). It also advanced about 50 training centers by applying newly created standards. To promote sustainability, skills standards of manufacturing sector were transferred to the Industrial Training Council (ITC), and standards relating to tourism and construction were handed over to corresponding association.

(3) Skills Development Project (World Bank)

- Skills Development Project (SDP) was began in 2004, and officially ended in 2010. World Bank funded \$5.5 million while the Egyptian government funded \$6 million. The main purpose is to design an exemplary project to raise the demands from the private sector for technical training through the consumer oriented competition mechanism.

- Project targets the Small-and-Medium enterprises (SMEs) in the field of tourism, construction, and manufacturing, and offers short-term training (less than 6 months) related to the production process by sharing costs with SMEs. Through this project, demand-driven training funding mechanism was test-operated in which 34,500 trainees are supported by 1,155 SMEs. The target project unit has been restructured at the Skills Development Unit of the Ministry of Industry.

(4) TVET Reform Programmed (European Commission)

- The project aims to contribute to enhancing competitiveness of Egyptian companies both in domestic and international market. Specifically, it is transforming the TVET system of Egypt into the form of decentralized and demand-driven one. This is 6 year project from November 2005 to October 2011 (the 2nd phase is on-going beginning of 2012).
- Details of the project include i) establishment of partnership between 12 industries-TVET to link the demands from industry with the training offered by TVET organizations, ii) progress the quality of training, iii) advance both the national principle and support function to institutionalize the TVET system in a form of decentralized and demand-driven one.
- As introduced above, major donor agencies shared the importance of establishing(or remodeling) a TVET system driven by recipient country's demand. However, this project was confined to sole provision of one-time support which lacked a long-term perspective approach.

5) Relevance of the Project Plan

- The detailed purpose and objectives of this project varied considerably in documents produced by each phase of the project. Identified issues are as

below.

- Types of goals such as reducing unemployment rate, job creation, and regional industrial development should be categorized as “Ultimate Outcomes” of the project.
- Project goals such as “Establishing cooperative framework and strengthening industrial-educational cooperation” should be re-categorized as “Outputs” which indicates a means of achieving goals.
- The objectives and goals of the project should not be in vague terms. In addition, putting cause and effects of the project goals in one sentence at the same time should be avoided.

<Table III-6. The status of goals and objectives stated in each phase of the project>

Phase	Project Objectives (goals)
Feasibility Study	<ul style="list-style-type: none"> • Achieving sustainable development of Embaba VTC’s educational environment • Cultivation of skilled manpower by transferring new technologies • Establishing cooperation framework for training among VTCs and strengthening academic-industrial cooperation
Agreement for the Project	<ul style="list-style-type: none"> • Promoting sustainable development of Embaba VTC’s educational environment
R/D	<ul style="list-style-type: none"> • Improving facilities by providing training equipment • Cultivating skilled manpower by transferring new technologies • Reducing unemployment rates • Promoting sustainable development by connecting KOICA assisted projects with existing one.
Detailed Plan	<ul style="list-style-type: none"> • Cultivating skilled labors by transferring Korea's auto maintenance technologies • Improving outdated facilities of VTC
Interim Evaluation	<ul style="list-style-type: none"> • Achieving Industrial and economic development in the field of auto maintenance • Promoting Job creation by cultivating skilled labors
End-of-Project Evaluation	<ul style="list-style-type: none"> • Improving educational environment of VTC • Achieving sustainable development of VTC



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

(1) Budget

- From the input standpoint, the overall plan went smoothly in most aspects. All the activities were done within the time frame (2006~2008) and all the budget was used for agreed activities.
- The budget for field activities including textbook development and purchase of teaching materials was procured independently to be administrated accordingly to the needs of recipient country. Thus, some modifications were found to be made as shown in Table III-8 below.

<Table III-8. Implement of Input Items Compared to Plan (Budget)>

Input	Plan	Implementation
Total budget	\$2 million	\$2 million
Equipment Supply	\$900,000	\$900,000
Inviting Trainee	\$ 375,000	\$ 375,000
Expert Dispatch	\$ 403,000	\$ 403,000
Ex-post management/ Textbook development	\$ 150,000	\$ 415,000
Others	\$ 172,000	\$ 280,000

(2) Manpower

- The expert dispatch program was designed for the full development of a vocational training center by disseminating Korea's advanced technologies to recipient country. The planned program included dispatch of chief expert (1 person per 12 months), chassis expert (1 person per 7 months), automobile body repair expert (1 person per 5 months), and engineering expert (1 person per 2 months). During the implementation process, KOICA expanded the total input period from 24 to 26 months to provide additional advisory on center operation management

<Table III-9. Comparison of Expert Input>

(unit : Person/Months)

Division	Plan		Implementation	
	Person	Month	Person	Month
Expert in charge	1	12	1	12
Chassis	1	6	1	1st phase: 6
				2nd phase: 1
Body Repair (automobile)	1	6	1	1st phase: 2
				2nd phase: 3
Additional Dispatch (engineering expert)	-	-	1	2
Total	4	24	4	26

2) Efficiency of Project Management

- During the project, the scheduled resources and activities such as time, budget and man-power were carried out well in most aspects. The provision of equipment was delayed, however, due to facility renovation of the center. Also, interim evaluation implemented in November 2007 was behind the planned schedule, and so was the implementation of end-of project evaluation. Table III-10 below presents comparison between the planned and implemented schedules of the project.

<Table III-10. Comparison between planned and implemented schedules>

Division	2006				2007				2008			
	1/4	2/4	3/4	4/4	1/4	2/4	3/4	4/4	1/4	2/4	3/4	4/4
Preliminary research	○											
Agreement for Project		○										
Building of execution plan			○									
Selection of PMC agency			○									
Center Renovation				■	○	○						
Equipment Supply				■	■	○	○		●			
Inviting Trainee				○	○							
Expert Dispatch					○	○	○	○	○	○	○	
Interim Evaluation						■		○				
End-of-Project Evaluation										■		

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

3) Efficiency of Input Allocation

- It was not easy to assess the efficiency of input allocation since the project failed to provide the basis for how the budget was calculated. If this project had included not only budget allocation but also the basis for its calculation, this project could have further increased its efficiency.

<Table III-11. Budget Allocation Status of the Project>

(unit : \$ 1,000)

Activity	Contents	Budget	Ratio (%)
Equipment Supply	Purchase of Equipment	900	45.0
Inviting Trainee	<ul style="list-style-type: none"> Managers:3 people 3 weeks Textbook development:6 people 1 month Teachers: 14 people 3 months 	375	18.8
Expert Dispatch	<ul style="list-style-type: none"> Chief expert: 1 person 12 months Additional dispatch: 12 people 2 months Engineering expert: 2 people 6 months 	403	20.2
Ex-post Management/ Textbook Development	<ul style="list-style-type: none"> N/A 	150	7.5
Reserve		172	8.6
Total		2,000	100

4) Efficiency of Project Implementation Method

- The efficiency of project implementation method is evaluated to be relatively high for following reasons.
 - Workshops for invited managers and teachers included textbook development courses to secure sustainable operation of VTC.
 - Expert Dispatch programs effectively provided an additional advisory including strategies for overall management of VTC, adopting profit-making business models, and strengthening industrial-academic cooperation.
 - The budget for field activities including textbook development and purchase of teaching materials was procured independently so that to be administrated accordingly to the needs of recipient country.



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-12. Evaluation Items of Effectiveness/Impact>

		Items	Target
Outcomes /Impact	Outcomes	Achievement of planned goals	100%
	The Degree of Achievement	Student enrollment rates	80%
		Use of developed textbook	80%
		Use of provided equipment	90%
		Teachers capacity reinforcement	80%
		The satisfaction level of VTC	80%
		Operation of profit business	more than 1
		Employment rate of graduates	25%

1) Evaluation of Output

- This project produced all the planned outputs such as improvement in the training center's educational environment, development of a new curriculum and teaching materials, and a master plan for the training center. (Refer to <Table III-13>).

<Table III-13. Work Process Result Compared to Project Plan>

Project Element	Work Process Result Compared to Project Plan		Achievement rate
	Plan	Result	
Facility Remodelling	Laboratory		
Equipment supply	<ul style="list-style-type: none"> • Common and two engineering curricula • 209 types 1,073 items 	<ul style="list-style-type: none"> • Installation and utilization education of equipment: 209 types 1073 items 	100%
Invitational Training	<ul style="list-style-type: none"> • Managers course: 3 people/ 3 weeks • Textbook development course: 6 people /1 month • Trainers course: 14 people/ 3 months 	<ul style="list-style-type: none"> • Managers course: 3 people/ 3 weeks • Textbook development course: 6 people /1 month • Trainers course: 14 people/ 3 months 	100%
Expert Dispatch	<ul style="list-style-type: none"> • Expert in charge: 1 person/ 12 months • Engineering expert: 2 people /6 months 	<ul style="list-style-type: none"> • Expert in chief: 12 months • Engineering expert 1 : 6 months • Engineering expert 2 : 7 months • Engineering expert 3 : 2 months (extra dispatch after coordination) 	100%
Textbooks& Curriculums Development	<ul style="list-style-type: none"> • Curriculum and textbook development of five engineering curricula for freshmen 	<ul style="list-style-type: none"> • Textbook development • Publish five types of textbook for freshman 	100%
Master plan	<ul style="list-style-type: none"> • Fundamental plan for VTC operation 	<ul style="list-style-type: none"> • Fundamental plan for VTC operation 	100%

(1) Facility Renovation

- Direct advisory was provided by dispatched experts on facility renovations. The compressor room generating noise and vibration was advised to relocate in the outskirt area, and advisory on the construction of duct, compressed air pipe, and plumbing were made, and also floor tiles, exterior painting, and signboard were also advised to foster the practical educational environment.

(2) Training equipments

- The category of equipment supplied via the project is comprised of 1,073 items under 209 types which were supplied via public bidding.
- The selection of item was made considering factors such as training priorities of VTC, practical needs, plans for placing laboratories, and operation of special courses.
 - A certain amount of spare parts had to be purchased in Egypt for an efficient use of budget.
 - To promote sustainability of equipments, suppliers were asked to write an operation manual in English, and teachers utilized it during training sessions.
- Supplied equipments are as follows, and the result of field research, interview and questionnaire indicated that the degree of achievement or completion of results evaluated as high in general.

<Table III-14. Supplied equipment>

Serial number	Installation place	Type	Item
1	Engine Repair Workshop	59	234
2	Chassis and Transmission Repair Workshop	30	110
3	Car Inspection Workshop	9	16
4	Diesel Fuel Injection System Workshop	7	12
5	Auto-Electric/Electronic Workshop	25	121
6	Painting and Body Repair Workshop	26	76
7	Spare Parts	14	58
8	Teaching Aids	23	23
9	Classroom & Instructor's Office	16	423
Total		209	1,073

(3) New textbook

- Five types of freshman exercise textbooks for car maintenance were development in a form of module. Recommended parts of Korean exercise textbooks by experts were translated into Arabic, and trainers complete the textbook by adding or removing contents based on thier judgment for material development.
- Experts participated in editing and reviewing for the development of five types of textbook are listed in the <table III-15>. Developed textbooks were published 500 copies each (2,500 in total).

<Table III-15. Writing and reviewing staff of textbook>

Developed textbook	Module number	Writing staff		Reviewing staff	
		Affiliation (Trainers)	Name	Affiliation	Name
Engine	37	- Embaba C - Alex C KIA Cairo	Ismael Mohsen	AIN SHAMS UNIVERSITY Alex University	Saleh Akaram
chassis	24	Embaba C Alex C Hyundai Cairo	Atef Hassen Samir	AIN SHAMS UNIVERSITY Alex University	Samy Morsy
Electric	20	Embaba C Alex C Hyundai Cairo	Ashraf Said Khaled	AIN SHAMS UNIVERSITY Cairo University	Kaddah Samed
Painting	16	Embaba C Alex C Hyundai Dubai	Medht Mahmod	Painting expert	Ahmed
Body repair	26	Embaba C Alex C Hyundai Cairo	Designer Mohamed Hussam	- Body repair expert	Asiraf
Total	123		15		8

(4) Capacity development of managers and teachers

A) Capability development via invitational program

- Implemented as follows, the invitational program was evaluated to obtain certain amount of achievements.
 - The invitational program was implemented as managers course (3 people, 3 weeks), curriculum and textbook development course (6 people, 1 month), and trainers course (14 people, 3 months) independently.
 - The direction of a training was adjusted during the training process in a way of transferring Korea's technologies relevant to vocational trainings spanning the field of car maintenance such as vocational training institutions and operational task of engineering and so on. Based on knowledge and experience obtained from each phase, curriculum was created by linking the dispatch of expert with existing programs to enable the better application of those toward the in-depth learnings and tasks. The (Table III-16) presents process and contents of trainings.

<Table III-16. Invitational program>

Training course	People/period	Detailed contents
Managers course	3 people/ 3weeks (06 years 12 months)	<ul style="list-style-type: none"> • Target trainees : PVTD(1 person) 및 Embaba VTC (2 people) • Training contents <ul style="list-style-type: none"> - Vocational training policy and institution of Korea - Korea's technology development policy - Operation method for efficient vocational training - Newly developed teaching techniques - Visit to VTC and relevant industries - Understanding of Korean culture
Textbook development course	6 people/ 1 month (07. 2 months)	<ul style="list-style-type: none"> • Target trainees : PVTD(2 people), Embaba VTC (3 people), Alex VTC (1 person) Textbook and curriculum developer in charge • Training contents <ul style="list-style-type: none"> - Instruction design and materials development - Information collection and utilization through internet - Job analysis method and practice

Training course	People/period	Detailed contents
		<ul style="list-style-type: none"> - Document editing technology - Development practice of major textbooks - Visit of VTC or relevant industries
Trainers course	14 people/ 3 months (06.12 ~ 07.2)	<ul style="list-style-type: none"> • Target trainees : Embaba VTC trainers (14 people) • Training contents <ul style="list-style-type: none"> - Vocational training policy and institution of Korea - Operation method for efficient vocational training - Importance of curriculum and materials development - Manufacturing technique of supplementary materials - Technical education for auto maintenance - New technology instruction - Visit to VTC and relevant industries

B) Capability improvement by dispatched experts

- Dispatched experts contribute to improving capability of teachers by providing technical advisory to managers and trainers of VTC. Fields selected for advisory included technical education, materials development, operational plan of VTC, operation of profit business, academic-industrial cooperation, and ex-post management.

(5) Operational plan of vocational training center

A) Advisory on the operational plan of VTC

- Future operation would be consistently connected to industries to enable the employment of graduates, and it will be progressed in a way of promoting sales and services of Korea's auto industries.
- As assisted with the latest equipments and technology from Korea, the establishment of organizational system for reasonable acceptance and utilization was instructed.
 - Based on our organizational operation plan for VTC, opinions from Mr. Faruck, the

president of the engineering department, and teachers were reflected.

- Rather than the current PVTD director or president centered operation system, the establishment of organizational system in which opinions from the majority members can be reflected through the "operating committee" and "academic committee" was recommended.

B) Advisory on school and academic administration

- Advisory on school and academic administration was initiated through the discussion, question and answer with related parties focusing on the following points.
 - Drafting an educational training plan
 - Curriculum design
 - selective recruitment of students
 - Academic administration and computer network management
 - Cases regarding the capability development of teachers and research activities
 - Cases regarding the supply and demand of equipments and its management
 - Cases regarding the national technical qualification examination
 - Evaluation and management
 - Student management and employment vocational guidance

C) Advisory on the operation of a profit business model

- With utilizing equipments and materials supplied through the project, we suggested profit business models and provided advisory on operation plans.
 - Creation of the short-term intensive auto maintenance course
 - Operation of auto maintenance center

D) Advisory on academic-industrial cooperation

- The employment of Embaba graduates via academic-industrial cooperation as the ultimate objective, (i) education matching with demands from industries, (ii) order type education, and (iii) industrial field education were implemented.
 - The utilization and management of equipments were advised to be managed in an efficient manner by linking already installed equipments with the operation of educational curriculum.
 - Advisory was provided in a way of supporting smooth operation of administrative management and academic administrations vital for the operation of the vocational training center.
 - The curriculum management provides intensive advisory on educational training and guidance plans by specializing its teaching methods
 - Induce the specialization of maintenance technique in response to the specialization of VTC
 - Regarding the general operation of a VTC, link the manpower training project with a profit business in a form of academic-industrial cooperation to develop it into a standardized project.

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) Student Enrollment Rate

- Embaba VTC offers a 3-year course of vocational training program including 2 training courses of automobile mechanics and body repair. The number of enrolled students is 405 as of 2013, so the student enrollment rate is over 90%.

<Table III-17. Student Enrollment Status (as of 2013)>

Department	Entrance	Freshman	Sophomore	Senior
Automotive maintenance	90	129	78	88
Painting & Body Repair	60	43	31	36
Total	150	172	109	124

(2) Quality and Usefulness of Developed Textbooks

- Through this project, five types of textbooks for 1 year students were developed and approved by PVTD to be distributed to three KOICA supporting VTCs (Embaba, Alexandria, Shoubra). However, evaluation team found out that only Embaba VTC had temporarily used the developed textbooks for two years (between 2008 and 2010).
- The results of interview with teachers from other VTCs revealed that the contents of developed textbooks were not properly met with the demands from the Egyptian industry.

(3) Usefulness of Provided Equipment

- The result of survey revealed that 63% of teachers believe that provided equipment was actively used, and the usefulness of provided equipment scored 3.6 on a five-point scale.
- Also, the result of survey revealed that 88% of students believe that provided equipment was actively used, and the usefulness of provided equipment scored 3.9 on a five-point scale.

<Table III-18. Student Enrollment Status (as of 2013)>

Is training equipment adequately utilized for training?		
	Frequency	Percentage
1. Strongly disagree	1	9
2. Disagree	2	18
3. Moderate	0	0
4. Agree	4	36
5. Strongly agree	3	27
No response	1	9
Subtotal	11	100
Positive answer	7	63
Average	3.6	

(4) Teacher Capacity Enhancement

- VTC teachers answered that theories and practical knowledge they received during the training course was very useful for their job.
- The result of survey revealed that 9 out of 11 teachers believe that theories and practical knowledge they received during the training course was very useful for their job. Also, 7 teachers answered that theories and practical knowledge they received during the training course was very useful for development of teaching materials and curriculums.
- It is also shown that 8 out of 11 teachers believe that theories and practical knowledge they received by dispatched Korean expert was very useful for their job. Also, 6 teachers answered that theories and practical knowledge they received by dispatched Korean expert was very useful for development of teaching materials and curriculums.

(5) The Level of Satisfaction

- The results of survey revealed that 55% of teachers are satisfied with current status of the center. Moreover, a 100% of survey participants showed their willingness to continue their work at the center, which indicates the satisfaction of teachers with the center is very high.
- The satisfaction of students with the center facilities and utilities scored 4.92 and 3.9 respectively on a five-point scale. The satisfaction of the training equipment and curriculums scored respective 4.1 and 3.84.
- The results of survey indicates that satisfaction of students with their teachers was relatively high. (practical knowledge 3.58, theoretical knowledge 3.24 on a five-point scale)

(6) Operation of Profit-Making Business Model

- After the completion of the project, Embaba VTC operated short-term training courses(2-week, 4-week) targeting both staff of enterprise and engineering college students since November, 2008. However, these training programs were stopped in February, 2010.
- A newly opened auto repair shop near Embaba VTC was stopped after a one-month operation in 2009.

(7) Employment Rate of Graduates

- The number of Graduates in year 2013 is a total of 93 (automobile mechanics 73, body repair 20).
- It is reported that 60% of graduates were employed after completion of the course, however, more research should be done on this matter so that to obtain higher reliability.



4. Sustainability

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

<Table III-19. Evaluation Items of Efficiency>

Criteria	Items
Sustainability	1. Administrative Sustainability
	2. Financial Aspect
	3. Technical Aspect

1) Administrative Sustainability

(1) Attraction of new students

- Since the completion of the project, the Embaba VTC has opened and operated schools between 2008 and 2009 with 150 students per grade. Looking into the yearly figure of new students, analysis is difficult due to the high fluctuations in the number of new students by year (<Table III-20>). There was an excessive applications between 2013 and 2014 in that 190 applied which exceeded the fixed number of 150. The recruitment was implemented via interview and physical examination. The reason of over recruitment was that yearly students amount to 5% failed or flunked.

<Table III-20. The yearly attraction of new students of Embaba VTC>

Year	Fixed number	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14
Car maintenance		90	110	93	102	89	138
Body repair		42	47	30	45	35	37
Total		132	157	123	147	124	175

(2) Registration of a student

- Yearly registration of Embaba VTC's students is as presented in <Table III-21>. Between the year of 2010/2011 and 2013/2014, the number of enrolled students increased from 336 to 405 in each grade. High fluctuations in the number of registration made analysis difficult.

<Table III-21. Yearly registration of students>

Year	Fixed number	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14
Auto maintenance	270	90	200	246	297	240	295
Body repair	180	42	89	90	120	86	110
Total	450	132	289	336	417	326	405

(3) Capability of teachers

- It was observed that teachers lacked the official program for developing its capability consistently, rather they obtained required information through the internet or books on a personal level.
- A survey results revealed that 7 out of 11 pointed to the lack of internal seminars or training programs for developing its instruction skills.

2) Financial Aspect

(1) Governmental support

- Governmental support to PVTD vocational training center was merely for the teacher's salary and minimum operation of the center, hence it limited the educational training activities of VTC.

(2) Site revenue of an organization

- To overcome such financial hardships, 'profit business model' was proposed by the project to help the VTC create its own revenues. Two profit business models were operated for a certain periods, and the revenues gained are as follows in <Table III-22>.

<Table III-22. Revenues from the operation of a short course and auto maintenance center>

		2008	2009	2010	Total
Short course	Number of trainees	15	165	42	222
	Income (L.E)	50,000	103,900	27,600	180,600
Revenue from the operation of auto maintenance center					2,770
Total					183,370

3) Technical Aspect

- As for the equipment maintenance, it seemed the center has enough capability for self-repair and maintenance when it comes to technical issues.
 - It coincides with the answers from teachers from a survey in which 7 out of 11 answered that training equipment has been properly maintained.
- In case of electricity, electronics, and software, the center also has the ability of Troubleshooting against the malfunctioning of equipment. Yet, difficulties found in procuring and collecting parts for A/S and related information.
- Should the needs of internal circuit diagram, sensor, actuator, and the establishment of system software arise, especially when warranty period has expired, channels for communication with domestic partners are needed for maintenance.
 - Issues can be overcome by utilizing dealers supplying equipment in the follow-up business.



5. Cross-cutting Issues

1) Gender

- The Embaba auto maintenance VTC neglected the discussion on gender mainstreaming in a planning stage. No female student is registered in the Embaba VTC, also there was no record of female enrollment in a regular course of auto maintenance. This is due to the fact the auto maintenance division has traditionally perceived as the male centered career.

2) Environment

- Under the project, the physical establishment of facilities was limited to renovation or small-scale expansion. Thus, there was no adverse influence on environment. Given that the center is located in urban area, no issues have been observed in case of water supply, electricity, and waste disposal system.
- Meanwhile, environmental safeguards are needed for facility renovation, and establishment of training place (workshop) as there has been enough discussions on these issues during the implementation stage 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-23> below.

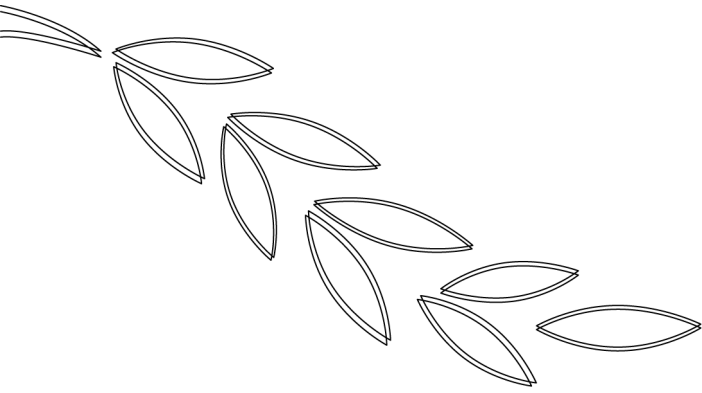
- In light of human rights suggested by the UN, limitations of the project can be illustrated as below.
 - Three types of human rights are suggested by the UN i) Equality and Non-discrimination, ii) Participation and Inclusion, iii) Accountability and Rule of Law ¹⁾.
 - For the development cooperation project to conform to the human rights principles, required information and data should be analyzed from the preliminary research stage, yet these were omitted.
 - In other words, comprehensive 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 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.

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

<Table III-23. 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 realized 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 Inspirational 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) Specialized aid strategies

- Intensive assistance was made on vocational training, especially on auto technical division, and characteristics are as follows.
 - Rather than fields related with policy and institutional establishment on a government level which has nationwide ripple effects, similar projects of regional based VTCs were targeted for assistance, and current project for evaluation was one of them.

- According to the 'aid evaluation' published by World Bank in 1998, major lessons derived from the aid methods are as follows, and it should be taken into consideration when it comes to project selection.
 - Major obstacles hurdling the economic progress of developing nations are not 'capital gap' but 'policy and institutional gap'.
 - Accordingly, large amounts of aid do not necessarily contribute to the nation's development and reformation, so rather than 'material assistance' such as buildings and equipments, provision of information and knowledge via aid is far more significant in a way of advancing recipient country's policy and institutions by transferring new information and knowledge relevant to development and reformation.
 - Relevant to this, donor countries have tend to support projects which has a high chance of success rather than innovative, but risk involving aids based on its past

experiences, those simple projects can be implemented by the recipient nations themselves, so it is important for donor nations to support the recipient nations by implementing brand-new and innovative, but risky projects to help them acquire new knowledge and experience in that these innovative projects can teach lessons even with failures, hence as important as successful projects.

2) Feasibility study

- The target project for evaluation is supported by donor nations as least \$2 million, thus official full-scale feasibility is needed.
 - However, TVET lacked analysis on policies relating to the Egyptian government, aid trends from other donor agencies, and relevance with previous projects, hence it is hard to find the feasibility for assistance.
 - This cursory feasibility study can be understandable considering the fact that this project share many common factors with the previous projects, yet analysis on the necessity of repetitive assistance for similar projects was neglected.
- In case of this project, 7 days of preliminary field research and execution plan were made individually though no further research has not made before the discussion on execution plans, hence preliminary research coincides with the 'feasibility study end-of report' thereby lacking the conditions to meet the international standards of 'feasibility study report'.

3) Quality control

- The results of interviews with trainers revealed that many are dissatisfied with the project activities. As for the invitational training programs, complaints arise due to the excessive courses on liberal arts, insufficient equipments of training centers, and poor quality of education, and in case of expert dispatch program, insufficient education on training equipments were pointed out.

- Although official document of agreement with the recipient country is R/D, this generally involves merely fundamental factors, hence the process of mutual understanding on invitational program and expert dispatch programs is required beforehand.

- Enough budget should be allocated for the installation of equipments and education, yet management plans against the organizations procuring equipments only for profits.

4) The necessity of careful approach for the development of curriculum and textbook

- The noteworthy factor attempted during the project was that 'the development process of curriculum and textbook' was included in the invitational training, and five types of textbooks for freshman were developed as outcomes. The textbook development missed the required process due to the schedule which made it short-lived just for two years of operation in certain training centers in that it lacked the relevance.

- Since the textbook development requires the educational process, the necessity of brand-new curriculum without reflecting the existing curriculum, as it was in the project, needed quite a longer period of time.

- In general, the educational curriculum of secondary schools are already developed or subject to guidance by managing organizations. Thus, a project should be implemented on a level of managing organizations to support the development of curriculum and textbooks, and this is inappropriate when supporting a single educational training institution as it was in the project.

5) Challenges for adoption of a profit business

- The noteworthy factors attempted during the project were that the focus of professional advisory was made not only for the operation of technical division, but on the operation of a school. The latter one included the advisory on the operation of profit businesses.
- The profit business (short course and operation of auto maintenance center) adopted by the dispatched experts were operated for two years from 2008, but interrupted in 2010. The reasons were due to the insufficient capacity of trainers, income distribution, lack of teachers' incentives, experiences and expertises and so on.



2. Recommendations

1) The promotion of specialized aid strategy

- Despite the inefficient aid resources, Korea has ample development experiences which enables cost-effective performances, so following plans should be taken into consideration for further KOICA aid strategy.
 - Since the repetitive assisting popular projects towards certain nations can be implemented by the recipient county itself, hence grant-type aids should be limited to special cases such as political/diplomatic purposes, and humanitarian purposes.
 - Rather than hardware supports such as buildings and equipments, technical cooperations through a project such as advancement on institutions and operation methods of the recipient organization should be emphasized, hence project that is hard to implement without technology, knowhow and experience even with enough resources should be focused.
 - For successful reformations of recipient countries, nationwide effects from the

progress of various policies and institutions should be made, so projects with nation-wide influences should be focuses rather than projects with limited effects.

2) Internal stability of feasibility study and planning

- An expert in implementation consultation should be dispatched to discuss project details with stakeholders in a recipient country for a long time once the support for a project is decided. It is needed to proceed with agreement for a project and ROD after completion of stakeholder analysis, problem analysis, objective analysis, PDM.
- It is necessary to introduce the concept of project document. the content of the document should be supplemented as the project progresses, and should follow an international practice. (i) Feasibility study, (ii) Project planning and design, (iii) Implementation and management, (iv) Standardized form related to evaluation should be included in the project document as substantive document.

3) Discreet approach to curriculum and textbook development

- Generally, TVET curriculum in secondary education should already be developed as national curriculum or follow the guideline of TVET managing agency. Therefore, the project should be done on the institutional level for supporting curriculum and textbook development. The project supporting for a single educational institution is not appropriate.
- It takes considerable time to develop new curriculum, and it takes more time to develop new textbook because a textbook is based on a curriculum. Hence, relatively long project period is required if new curriculum and textbook development are included for the project components.

4) Prerequisite for introducing Business Model

- To raise financial sustainability of TVET institutions supported by KOICA, introduction of the business model is needed to secure budget for institutions. Business model is categorized into traditional business model and non-traditional business model. Traditional model means tuition fees earned from various training courses in TVET institutions. Non-traditional model is revenue yielded by sales of products from practical rooms and service provision.
- 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.

5) Shift to Establishment of "Center of Excellence for TVET"

- It is recommended that future projects be more focus on the establishment of Centers of Excellence for TVET to be benchmarks for other TVET institutions. The center of Excellence has two features. First is to provide high-quality education and training related to employment, and second is to fulfill additional functions with regard to TVET system in the recipient country.
- Carrying out additional functions related to vocational training system should include invitation of trainees, research, center for resource and information of vocational training, and network key points for vocational education and training. These additional functions can have considerable impact on the improvement of vocational training system in the beneficiary country.



3. Requirements of Post-Project Management

1) Enhancement of capacity for VTC Teacher

- Above all things, It is important to develop the capacity of teachers for raising sustainability of project impact and quality of training in VTCs.
- TCT can provide an opportunity for teachers to improve their capacity efficiently. This means that systematic training program for teachers is developed in Korea, and automobile engineering experts are dispatched to TCT for improving VTC teachers' capacities.

2) Enhancement of capacity for VTC Management

- There is a need for managers in PVTD and VTCs to improve their managerial capacity. Managers should set up cooperative system with the industry and communities in order for training contents in VTC to meet the demand of regional industry.
- Moreover, managers should introduce business model and industrial-educational cooperation with business-oriented mind-set for sustainable development of VTC.
- Customized education program is required to enhance managerial capacity of managers in PVTD and VTCs.



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 of 80% in 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

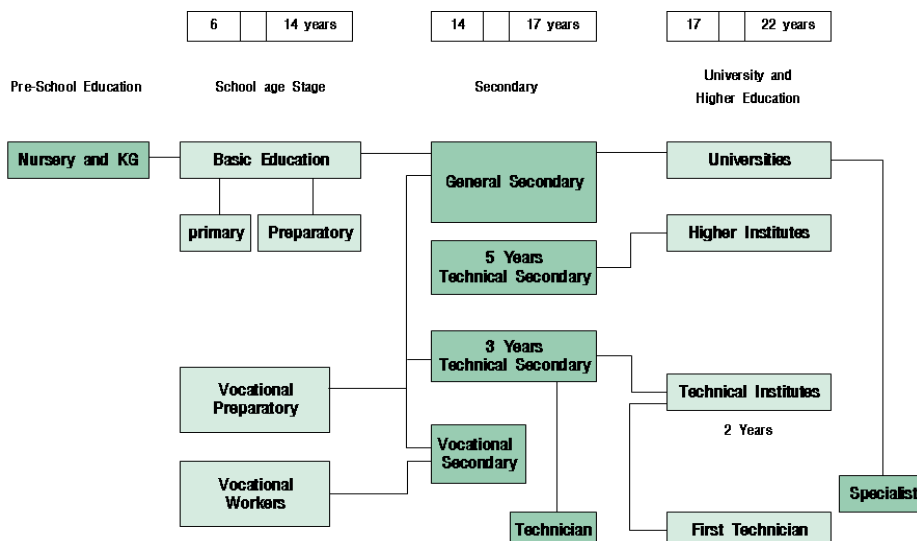


1. The system of education

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 A-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 A-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, NAQAAE. 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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Published by the Korea International Cooperation Agency(KOICA)

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ISBN : 978-89-6469-227-1 93320