

3. Results of Evaluation  
3-1 Evaluation by Five Criteria  
3-1-1 Relevance

The Project Purpose and Overall Goal are relevant in terms of the needs and the policy as follows.

(1) Relevance to the Ghanaian needs

In Ghana, TVET has been implemented by various ministries using various institutions and equipment, which resulted in lack of consistency in the contents and the quality of TVET provided in the country. Moreover, TVET in Ghana is supply- and theory-oriented, failing to produce skilled workers, who are equipped with knowledge and skills needed by the industry sector. The said situation was pointed out by the Master Plan for TVET made by JICA in 2001, and the needs for strengthening TVET in Ghana were confirmed by the document as well. From these reasons, policy for demand-oriented TVET, which employs CBT method, was adopted by the government followed by the establishment of COTVET in 2007. Judging from this situation, the Project, which seeks to support strengthening the capacity of COTVET to implement demand-oriented TVET through piloting CBT in TVET training institutions, is relevant to the needs of the country.

Meanwhile, although the industry sector has needs for more competent skilled workers, the need for CBT is not recognized sufficiently because it is still a new concept in the country. At the training institution level, the concept of and the need for CBT are recognized better mainly due to the high teacher-student ratio as well as the inflexible and obsolete curriculums used at schools where CBT is not yet introduced.

(2) Relevance to the Ghanaian and Japanese Policy

For Ghana, which aims to achieve middle-income status by 2015 according to GPRS II (2006-2009), nurturing a workforce to support an economy which can achieve rapid progress is key. Therefore, the GPRS places a heavy emphasis on development and improvement of TVET amongst other subsectors in the education sector.

The country's Education Strategic Plan (2003-2015) also reiterates the importance of TVET. According to the plan, TVET is one of the four focus areas in the education sector in Ghana, together with improvement of access, quality of education and educational management. The strategies to reinforce the subsector stipulated in the document are consistent with the approach this Project has taken.

The Project is also in line with Japan's Country Assistance Programme to Ghana, in which promotion of industrial development, including human resource development, is listed as one of the four strategic assistance objectives. The policy is also reflected in JICA's Country Assistance Strategy

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for Ghana. The document stipulates that JICA will support capacity development of the country's educational system from classroom to administration in the capital as well at the local level in order to improve TVET and science and mathematics education.

### (3) Appropriateness of the Project Plan

The project plan was not robust enough because the progress of the Project has been severely disrupted by its settings and environment. The feasibility of starting the Project before the main counterpart agency comes into existence should have been examined at the time of the ex-ante evaluation. It is risky to assume that an agency, which was not yet established when the Project started, would function with appropriate staff numbers as expected.

In addition, it needs to be pointed out that the Project has relatively large number of Pre-conditions and Important Assumptions; some of them overly optimistic. For instance, fulfillment of Important Assumptions such as "Funds for the introduction of CBT are established by GoG and Industry Sector" and "Necessary budget and resource allocations by both Public and Industry Sectors are made to the TVET institutions" is unrealistic. It must have been more relevant if some of the important assumptions were incorporated into the project activities in order to have more control over these important assumptions.

#### 3-1-2 Effectiveness

Because of the delay of the Project, it is too early to measure the effectiveness of the Project at the moment because COTVET has just started to recruit its staff, and the delivery of CBT has not started in the two training institutions yet.

As described in "2-4 Achievement of Project Purpose", the quality of CBT materials developed by each training institution was not very satisfactory. One of the reasons could be that the definition and concept of original CBT method were not shared and understood fully among the counterparts. The review team judged that development of occupational standards and other materials was beyond the capacity of the instructors especially when development of occupational standards at the national or international level is in the scope of the Project.

It is estimated that demonstrating effectiveness of the Project by March 2011 would not be easy considering the current status of the Project and COTVET, as well as the fact that pilot students at ATTC and Accra Polytechnic would not be able to graduate before the Project terminates. It is necessary that the Project conducts evaluation to measure the degree of students' mastered skills after the first school year finishes in order to estimate the trainees' achievement level. At the same time, the capacity of the instructors to deliver the CBT program needs to be duly monitored for the purpose of ensuring the quality and effectiveness of the piloting.

### 3-1-3 Efficiency

Overall, the inputs of the Project made by both of the Ghanaian and Japanese sides have not been very appropriate in terms of quantity, timing and quality.

The absence of COTVET staff, which is the most important and indispensable input from the Ghanaian side, jeopardized the Project. It was extremely difficult for the Project to produce outputs as planned without COTVET staff. It is expected that the council will prioritize the recruitment for the posts which are directly related to the Project so that the Project can accelerate the implementation, and adjust the project design as soon as possible.

The temporary project office was provided in ATTC, but the project office, which COTVET and the JICA project team can share, has not been made available yet. The physical distance from COTVET was problematic because it decreases the frequency of communication, requires transportation, and affects commitment of COTVET to the Project.

As one of the inputs from Japanese side, two training courses were conducted in Japan, and the effects to the Project are mixed. Regarding “TVET Management Training Course”, the participants should have been selected more strategically because while the training was evaluated very highly by the executive director of COTVET, who was one of the participants, the other participant was not a counterpart of the Project. The other course, “Material Development & Teaching Methods” conducted for six staff was given a mixed reception by the participants: some judged it to be effective while the other evaluated it less because the contents of the course were not related to CBT. In addition, post-training meetings, in which the participants of the training share what they learned with other colleagues and stakeholders, were not held. This fact decreased the efficiency of the inputs.

Another factor which affected the efficiency negatively is the insufficient TVET and mechanical engineering specialists in the Project. The Project needed specialists who could supervise the whole Project as well as its technical aspects. Without these specialists, it was difficult to supervise the two Technical Officers, provide appropriate technical inputs to the Project and adjust the orientation as well as the schedule for the Project.

Regarding recruitment of specialists, the review team found that the contents of the Terms of Reference (ToRs) for new recruitment or renewal of contracts have not been updated regularly, so that the tasks described in the ToRs would be in line with the current situation of the Project. It is important to consider the change of the environment and the progress of the Project when ToRs are developed, and the detailed tasks to be performed are stated clearly.

The project management system has not functioned optimally. One of the reasons is that the JICA Project team was not able to work closely with COTVET because of the limited staff of the

council as well as the insufficient communication and understanding regarding the project operation between COTVET and JICA project team. Another reason is that the JCC was held only once, and thus, it did not function as an effective platform for information sharing, problem-solving and decision making. The underlying problem is not so much about JCC itself but that there were not enough information sharing and consensus building on some of the critical issues about the Project before the JCC within the JICA project team, between the JICA project team and COTVET, and among other related stakeholders. The project implementation system, in which two Ghanaian Technical Officers facilitated the activities under Output 2, was appropriate considering the expertise and experiences they have, outputs produced and appreciation of their expertise by the counterparts. Meanwhile, it is problematic that the Project including COTVET and JICA project team have not set up an appropriate supervision and monitoring system within the Project which can overview the overall progress and performance of the Project.

According to the counterparts at Accra Polytechnic, the equipment provision process by JICA takes about 6-8 months, which makes it difficult for the instructors at Plant Engineering course to develop an overall procurement plan for the course. Meanwhile, the provision of equipment to NVTI went smoothly. As there are gaps between the explanation of the Project and the claim by the polytechnic, the issue needs to be solved as soon as possible by consulting with them because the institution is about to start piloting CBT with the new equipment.

On the other hand, efforts were made in order to raise efficiency of the Project. For example, the workshops used to be held at hotel but later the venue was changed to the pilot schools or the place where the fee is more reasonable. Also, the Technical Officers were recruited locally instead of dispatching Japanese experts. Moreover, occupational standards, syllabi, curriculums were developed utilizing the experiences and expertise of the team in each pilot institution although there is still room for improvement in the quality.

COTVET and the Technical Officers discussed the importance of harmonization of various CBT methods in the country, and the initiative to collaborate with other development partners has started. The Technical Officers are active in the harmonization committee, seeking the way to harmonize existing various CBT methods so the future inefficiency can be avoided by establishing one unified CBT in Ghana.

#### 3-1-4 Impact

|              |   |
|--------------|---|
| Overall Goal | 1. Increased number of TVET Training Institutions with CBT<br>2. Qualifications Accreditation System is operational   |
| Indicator    | 1) Number of training packages at the intermediate and advanced levels.<br>2) Number of technical training packages implemented at intermediate and advanced levels.<br>3) Number of ITAC Sub-committee increases on technical areas other than |

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|--|--|
|  | mechanical engineering.  |
|  | 4) By the end of year 2016, number of trainees who received CBT increases by 30% from the end of March 2011. |
|  | 5) Number of demand-oriented TVET with CBT increases at training subjects other than mechanical engineering. |
|  | 6) Pass rate of the trainees on each competency level continuously kept at 70% and above.                    |

At the moment, signs to achieve the Overall Goal after the termination of the Project cannot be observed. However, there are some unexpected positive impacts. For example, the number of request for the project team to assist workshop on CBT has increased, and the Project assisted workshops held by NABPTEX, VTF and OIC by introducing TVETS project and CBT. Especially, VTF developed interests in CBT, and seeks to adopt CBT method in the area of hospitality with the support of TVETS Project.

Positive impacts can be observed at the level of pilot training institutions as well. NVTI has partially adopted the CBT method for the second year electronics students even though they are not the pilot group. ATTC now plans to conduct CBT workshop for all the instructors using their own resource.

There are unexpected negative impacts as well. Because several development partners, such as NUFFIC, CIDA and DIFD are involved in introduction of CBT method in the TVET sector in Ghana, the details of CBT method of one donor is different from those of another donor. However, harmonization process is ongoing by the initiative of COTVET, and the differences will be reconciled shortly. Moreover, as more development partners are interested in assisting in the area of TVET, engagement and time of COTVET need to be spared for other donors including SDF.

### 3-1-5 Sustainability

#### (1) Policy and Budget

Due to the adoption of the COTVET Act followed by official establishment of COTVET, and adoption of CBT policy as a national policy, it is highly likely that the policy framework will remain effective. However, the budget to COTVET provided by GoG has not been disbursed for two and a half years since the launching of the law in August 2006 until April 2009, and the amount finally disbursed was smaller than expected. Moreover, financial input made so far by the Ghanaian side is limited to the allowance for the workshop participants paid by each pilot training institution. Meanwhile, GETFund is available for COTVET, and SDF is planned to be launched next year, it is likely that COTVET will receive extra financial support to continue introduction of CBT method. Scaling-up of CBT method is not secured yet due to the lack of mid-term expenditure plan of COTVET.

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## (2) Organizational system and Individual Capacity

A proper project implementation system has not been established yet, but it is expected that it will be gradually developed during the latter half of the project period because COTVET board members were reappointed.

The system of authorization and accreditation of CBT at the national level is not established yet. Developing the system is one of the most pressed activities that the Project needs to undertake for the purpose of adding credibility to the CBT method the Project developed and for sustainability of the project approach.

As the individual capacity development of COTVET has not been undertaken due to the absence of its staff, this will be one of the key activities during the remaining two years. Regarding the capacity of instructors at the pilot training institutions, the performance of the instructors needs to be monitored and rated once piloting starts.

## (3) Motivation

There are signs for increased motivation to adopt CBT at the training institution level as NVTI partially adopts CBT method for the second year electronics students as well, and ATTC now plans to conduct CBT workshop for all the instructors using their resource. Because the preparation phase for the CBT introduction is about to come to an end, the motivation of instructors to utilize CBT method and upgrade their own instruction needs to be monitored. It will be key for sustainability to create a monitoring system, in which the pilot training institutions monitor the quality of CBT delivery and maintain their own equipment, which are then assessed by COTVET.

### 3-2 Factors that contributed and constrained the effects of the Project

#### 3-2-1 Contributing Factor

##### (1) Technical Officers

The performance of the two Technical Officers is evaluated very highly by the executive director of COTVET as well as the technical teams in the three pilot training institutions. Their expertise and commitment are some of the factors which spurred progress of the activities under Output 2.

#### 3-2-2 Constraining Factors

##### (1) Delay of establishment of COTVET

The delay of establishment severely affected the Project, and almost all the activities were deferred.

(2) Absence of overall supervision and monitoring

Overall supervision and monitoring system has not been established in the Project yet. Therefore, it was difficult to foresee upcoming problems and take a proactive approach to troubleshoot them or adjust the orientation before the problem becomes serious.

(3) Inadequate expertise within the project team

Another constraining factor is insufficiency of TVET and mechanical engineering expertise in the Project, who can supervise the whole Project, and provide technical inputs timely. Especially, it has been difficult to supervise the activities under Output 2 and provide appropriate advice to the Technical Officers.

### 3-3 Conclusion

In spite of several constrains such as the slow process of COTVET establishment, the project has carried out the development of CBT with 3 pilot institutions through mobilizing the local initiatives to some extent.

However, the quality and relevancy of draft CBT contents need to be examined to improve the standard level with more involvement of the industry sector at each stage of development.

In addition, the accreditation procedure for CBT materials has to be cleared and processed to achieve the expected outcome to some extent by the end of the cooperation period.

In the latter half of the project period, further effort is required to produce competent skilled workers based on the CBT. If the project aims to accomplish output 2 at least by the end of cooperation, it is required to gain appropriate and relevant technical and advisory support up to the end of cooperation. To ensure steady implementation in the remaining period, the project needs to be monitored and guided by a superior management body such as a steering committee.

#### **4. Recommendations**

##### **4-1 Points to note**

Through the survey, the mission observed and confirmed several setting change both in and out of the project compared with the situation at ex-ante, these are;

##### **4-1-1 COTVET's supervision**

COTVET was established and mandated to coordinate and oversee all aspects of TVET in the country, however, its function is not fully developed yet. In the current setting, COTVET is under the MoE and superintends technical areas in polytechnic, technical Institutes in second cycle, NVTI, apprenticeship, as well as the private sector. With regarding to skills level, COTVET is mainly responsible for technicians, artisans and the informal sector.

However, it is important to note that COTVET is a coordinating body thus it is responsible for supervising TVET providers under all the different ministries. Therefore, the sources of budget for the 3 pilot institutes are different; this makes it difficult to control the schedule and environment of development and implementing CBT piloting at this moment.

##### **4-1-2 Change of Counterparts in developing CBT**

In ex-ante stage, the project planed to work with CBT division and the relevant standing committees in COTVET as counterparts to develop the CBT, however, due to the delay of COTVET establishment, the project identified the pilot institutions to be a counterpart to carry out the CBT development until the division was set up.

However the decision making process for this change and its approval by JCC were not clear. Since the capability of alternative counterpart was different from the original team, the CBT development plan could be revisited more carefully to modify based on the changes made. In addition, in the latter half of the period, the way to catch up the original counterparts for technical transfer on development of CBT system need to be planned including development of operational manuals.

##### **4-1-3 More support in TVET development**

TVET is one of the most emphasized subsectors in the GPRS. In the ESP, TVET is also one of four focus areas. This initiative is also reflected in increasing the TVET allocation in the budget of MoE and in GETfund as well as establishment of SDF supported by World Bank (WB) and other development partners. It is also important to note that in the MoE strategy, the second cycle Technical Institutes (TIs) are the priority at this moment. Due to the emerging Oil and gas industry in Ghana, government and industry seek more skilled technicians to work in this area. In addition, the government is working to improve skills for business process outsourcing (BPO) in Information Communication Technology (ICT) and Information technology enabling services (ITES) ().

##### **4-2 Feasible activities in the latter part of period**

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As noted in the above conclusion, the mission confirmed the following activities which must be accomplished as well as feasibly implemented during the cooperation period (up to March 2011). These activities can be implemented if the following recommendations are taken to action immediately. To implement these activities in priority, the present PDM needs to be reviewed to focus the scope of work in the later half of the period.

Activities which must be accomplished in the latter half of the period are;

- ◆ Completion of quality assured CBT contents and manuals development.
- ◆ Receiving feedback and recognition from the industry and private sectors on CBT materials and manuals before pilot starts.
- ◆ Development of training schedule including assessment for pilot courses.
- ◆ Development and instruction of M&E mechanism which enables the revision and completion of CBT, to measure the skills competency of trainees at the end of the pilot training, as well as to assess the implementation process of CBT at schools including establishment of random assessment check scheme for the technical achievement on individual trainee by the authority.
- ◆ Supporting and guiding of pilot training course.
- ◆ Plan and schedule for industrial attachment (in planting training) in CBT courses.
- ◆ Confirm the procedure and agree on accreditation of CBT in pilot courses with Government of Ghana through COTVET.
- ◆ Harmonization of CBT in Ghana

#### 4-3 Recommendations

##### (1) Support in COTVET establishment

In supporting the capacity development in COTVET, it is important to re identify the focus area of support which has direct link to ongoing project activities, such as i) Qualification Framework and Qualification Accreditation System through CBT harmonization process, ii) CBT piloting in COTVET action plan in 2009 based on the project framework (PDM and PO).

In the process of CBT harmonization, the definition of CBT based on the international standard has to be discussed among the stakeholders in Ghana. In addition, the current accreditation system needs to be examined in TVET and ideally a unified policy needs to be addressed if possible.

To ensure the support in above areas in COTVET, once the ITAC is formed, project has to work closely with the ITAC and its sub committees to provide the advisory support in accelerating the process of CBT system development in Ghana.

##### (2) Support in developing Competency Based Training (CBT) system

- Recognition of CBT materials and manuals by the industry and the private sector;

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The CBT contents need to be examined with industry and other related stakeholders to identify necessary change and to improve. The materials and manuals needs to be accepted by industry before the pilot starts. For this line, set up the flowchart map (fishbone) to develop the CBT with the purpose of disseminating the method of CBT to other institutions.

➤ Accreditation ;

When the CBT development takes place, the accreditation procedure has to be followed by the international process, thus to validate the accreditation, the material development process including training criteria on each step, written textbooks, practical models are also needs to refer to international standards.

➤ Implementation of pilot courses at institutions;

The training schedule including instructor's assignment table must be developed, shared and approved by the project before the pilot course starts.

To supervise and to advise the development of training schedule and its implementation in pilot course, vocational training management specialists need to be assigned immediately.

➤ Industrial attachment (work experience);

Details of Industrial attachment (work experience) programme which is planned as part of CBT need to be agreed with stakeholders as soon as possible to enable the development of the programme, procedure and schedule of the industrial attachment. It is also important to support estimation of the activity so the pilot institutions have ample time to prepare for the programme.

➤ Feedback on pilot training;

Two kinds of evaluation have to be conducted during the pilot period, one to measure trainee's achievement in skills competency and the other is to evaluate the pilot CBT contents. However, some of the evaluation can be done only after the cooperation period, therefore, it is also important to develop conducting manual for pilot course. For trainees' achievement, M&E module needs to be installed along with the training schedule to evaluate the trainees' level of skills acquisition.

The pilot course will be completed after the project support period, therefore, it is recommended to support in establishing the CBT M&E system in COTVET as well as at the pilot institution so that these evaluations can be conducted by Ghana even after the end of the JICA project support period. The trainees' achievement may not be evaluated at the end of pilot course, however, one suggestion can be the checking of degree of skills acquisition of trainees at the end of first pilot period, to estimate the achievement of competency at the end of training course.



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In addition, operational manual has to be developed to transfer technical know how to CBT division in COTVET for conducting CBT development in other areas.

**(3) Linking with other TVET development partners**

It is recommended that within the framework of COTVET, project needs to advocate the partnership as well as to explore possible linkages and collaboration to maximize and enhance the support in TVET development in Ghana.

**(4) Review of project framework and flow**

The review team observed that understanding of output and priority activities are different within the project as well as with the other stakeholders, thus it is recommended to revisit the project framework and reorganize the activity flow among project with key stakeholders as soon as possible. Based on this, the PDM and Plan of Operation (PO) should be revised.

**(5) Improvement of project management**

It is recommended to review the information sharing and decision making process within the project to maximize the JICA inputs to achieve the project goals. The project member once again need to rebuild the consensus on the priority actions among the planned activities and agree on the its implementation time schedule (PO agreed in March and June, 2009) together with the detailed progress and future schedule of COTVET establishment.

It is also important for the project to hold regular meeting with JICA Ghana Office to share and discuss the progress and challenges on on-going activities from time to time so as to adjust to the project time line.

Within the project, it is necessary to re-examine and set up the harmonious decision making process, clear division of role and responsibility of each task. In addition, responsibility for management of overall project activities within the project has to be clear and carried out.

**(6) Input of appropriate and relevant experts in project**

In the latter half of the project period, to carry out quality assured pilot training course, the project need to have technical advice on management of Vocational Training as well as on improvement of contents of CBT. It is recommended to seek the possibility of third country experts who have the comparative advantage in CBT system.

**(7) Set up steering committee to support and guide the project**

In the former half of the cooperation period, supervision of the Project by a superior body was not conducted effectively. This can be one of the reasons in failing course correction of the project until now.

For the later half of the cooperation period, steering committee can be set up and hold meetings regularly to provide guidance and technical support in the project. In addition, it is also important to note that role and function of JCC is essential to support and authorize the activities of the project.

**(8) The beneficiary-centered project planning.**

Beneficiaries of the CBT are students / trainees, and the industry that employ them at the work place. Therefore, it is advisable for the Project to review and evaluate their work with reference to their satisfaction.

**(9) Location of project office.**

In current setting, COTVET office is temporary and has not enough space to accommodate the whole project within the building at this moment. However, to establish the close and reliable working relation which allows carrying out the activities more efficiently, the project should be located in the place which substantial and functional counterparts work.

**4-4 Lessons Learned**

**(1) Strengthening TVET framework to ensure the quality of TVET**

The project has been developed based on the long collaboration process in TVET development in Ghana between Japan and Ghana. Prior to the project, JICA dispatched experts to foster the enabling environment for TVET development as well as to conduct development study.

Although, the project plan was not robust enough, the approach to strengthen the quality of TVET together with policy and system development was relevant to the needs of Ghana. However, when the support moved from policy to implementation level, it is indispensable to examine the strategic plan as well as close consultation with recipient country to identify the areas of relevant support in scheduled time frame.

**(2) Ensuring the involvement of training expertise and professionals of TVET in planning stage**

Some of the issues in CBT development identified in the project could be avoided if there were enough consultation form the TVET expertise to define the scope of work in the project and to look for alternatives for more effective approach.

To carry out feasible and successful project implementation, ensure the involvement of TVET expertise and professional for consultation to develop relevant project from the ex ante evaluation stage which is key to clarify the project design in details.

**(3) Careful planning for project implementation**

Due to the delay of COTVET establishment, the project has been implementing the activities without counterparts, which caused the low achievement on capacity development of COTVET.

The existence of a counterpart agency is key for technical cooperation, therefore, if there is a such a concern at ex-ante stage, the feasibility of starting a project has to be examined very carefully to seek for alternative plan such as re-scheduling of the project or re-organizing cooperation framework to avoid the flying start without counterpart.

**(4) Putting quality improvement of TVET at training site at first and as core action in 'TVET'**

Scaling up and reforming the TVET delivery into outcome based training are crucial for TVET support in Africa. However, the quality of TVET is still low and quite many TVET institutions lack adequate number of professional trainers, training materials and equipment as well as management capacity.

Therefore, without helping in improvement of the quality of trainers and of training at institution levels, further input would not be efficiently absorbed on the counterpart side.

**(5) Sharing TVET know how among the JICA HQ and overseas office to support abroad managed project**

To support the JICA office in designing and managing the TVET programme, it is advisable to build networks among JICA HQ and overseas offices which manage the TVET project locally to share more information and lessons learned from each other.

**(6) Following and linking with progress of policy development**

In most countries where TVET development are ongoing as government priority areas, projects need to keep attention on progress of policy development so as to ensure the relevance of the project activities. In addition, it is also important to follow other donor activities to explore possible collaboration to enhance the efficiency of the project, which also allows the project to contribute to the overall TVET sector development.

**Annex 1: Schedule of the Evaluation Team**

Annex 1: Schedule of the Evaluation Team

| No. | Date   | Time   | Content  | Mr. Sato, Ms. Tsubone, Mr. Wakasugi, Ms. Owusu  | Mr. Nakano, Ms. Muto, Ms. Kojima |
|-----|--------|--------|--|---|----------------------------------|
|     | 9-Aug  | Sun    | Depart Japan   |   |                                  |
| 2   | 10-Aug | Mon    | 18:50 Arrive Ghana (KL589)   |   |                                  |
|     | 11-Aug | Tue    | 8:10-13:00 Interview Project JICA Expts (in Group&individually) @Project office in ATTC (&NVTI)                                      |   |                                  |
| 3   |        |        | 13:30-14:30 Meeting with JICA Ghana  |   |                                  |
|     |        |        | 15:00-17:00 Interview COTVET   |   |                                  |
| 4   | 12-Aug | Wed    | 9:00-10:30 Interview GES (TVET Div)  |   |                                  |
|     |        |        | 11:00-12:30 Interview NCTE   |   |                                  |
|     |        |        | 14:00-16:30 Observe 1 pilot institute incl. non-p areas(Accra Poli.)   |   |                                  |
|     |        |        | 17:00-18:00 Observe 1 non-pilot institute(Vocational Training for Female - Hospitality)  |   |                                  |
| 5   | 13-Aug | Thu    | 9:00-10:00 Interview 1 association of pilot area (Ghana Electronics Servicing Technicians Association (GESTA)-Electronics) @NVTI PTC |   |                                  |
|     |        |        | 10:30-11:30 Interview 1 association of pilot area (Association of Ghana Industries(AGI)-Electronics & Welding)                       |   |                                  |
|     |        |        | 14:30-16:30 Observe 1 non-pilot institute with no-intervention (Tema Technical Institute-Welding)                                    |   |                                  |
| 6   | 14-Aug | Fri    | 9:00-10:00 Interview GET FUND  |   |                                  |
|     |        | PM     | Revise the Mid-term Review Report  |   |                                  |
|     | 15-Aug | Sat    | Revise the Mid-term Review Report  |   |                                  |
|     | 16-Aug | Sun    | Revise the Mid-term Review Report  |   | Depart Japan                     |
| 9   | 2      | 17-Aug | Mon  | Draft the Report  | 18:50 Arrive Ghana (KL589)       |
|     |        |        | 20:30-21:30 Meeting with JICA Ghana  |   |                                  |
| 10  | 3      | 18-Aug | Tue  | 8:10-12:30 Interview Project Staff(in Group&individually) @JICA,Project office in ATTC (&Noguchi Inst.) |                                  |
|     |        |        | 13:00-14:00 Meeting with JICA Ghana  |   |                                  |
|     |        |        | 14:30-15:15 Interview MoE (PBME)   |   |                                  |
|     |        |        | 15:30-17:00 Interview COTVET   |   |                                  |
| 11  | 4      | 19-Aug | Wed  | 8:30-10:30 Observe 1 pilot institute (ATTC)   |                                  |
|     |        |        | 11:00-11:30 Observe 1 pilot institutes (NVTI, Headquarter)   |   |                                  |
|     |        |        | 12:15-13:00 Observe 2 pilot institutes (NVTI, Training Center)   |   |                                  |
|     |        |        | 14:30-16:00 Observe 1 non-p insti. with no-intervention (NVTI Dansoman-Electronics)  |   |                                  |
| 12  | 5      | 20-Aug | Thu  | 8:30-11:30 Discussion with pilot institutes, COTVET, project, JICA on the CBT pilot @JICA 1a            |                                  |
|     |        |        | 13:30-15:30 Interview Project Staff(Technical Officers,Individually) @JICA   |   |                                  |
|     |        |        | 16:15-17:30 Interview MoTI   |   |                                  |
| 13  | 6      | 21-Aug | Fri  | 9:00-10:00 Interview 1 associations of pilot area (NVTI pilot training center-Welding)                  |                                  |
|     |        |        | 10:30-11:30 Interview 1 companies (TV3-Engineering) @JICA  |   |                                  |
|     |        |        | 14:00-15:00 Interview NABPTEX @JICA  |   |                                  |
|     |        |        | 15:30-17:00 Interview Project Staff(Chief Advisor) @JICA   |   |                                  |
|     | 22-Aug | Sat    | Revise the Report & M/M  |   |                                  |
|     | 23-Aug | Sun    | Revise the Report & M/M  |   |                                  |
| 16  | 9      | 24-Aug | Mon  | 8:30-19:00 M/M Meeting with JICA Ghana  |                                  |
| 17  | 10     | 25-Aug | Tue  | 8:30-10:30 M/M Meeting with Project Team & JICA Ghana   |                                  |
|     |        |        | 12:00-13:00 Interview WB   |   |                                  |
|     |        |        | 14:00-15:30 M/M Meeting with COTVET  |   |                                  |
|     |        |        | 15:15-18:00 M/M Meeting with Project Team & JICA Ghana   |   |                                  |
| 18  | 11     | 26-Aug | Wed  | 8:30-12:00 Stakeholders Meeting on the Mid-Term Review Result @JICA 1a                                  |                                  |
|     |        |        | PM Revise the Report & M/M   |   |                                  |
| 19  | 12     | 27-Aug | Thu  | 8:30-12:00 M/M Meeting @JICA  |                                  |
|     |        |        | PM Revise the Report & M/M   |   |                                  |
| 20  | 13     | 28-Aug | Fri  | 9-10 Sign M/M @COTVET   |                                  |
|     |        |        | 11- or PM Report to EOJ  |   |                                  |
|     |        |        | 21:05 Depart Ghana (KL590)   |   |                                  |
|     | 29-Aug | Sat    | Depart Japan   |   |                                  |
|     | 30-Aug | Sun    | Arrive Japan   |   |                                  |

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**Annex 2: Major Interviewees by the Team**

1. Project Staff

- Mr. Kenji KIMURA, Chief Advisor
- Mr. Yoshio ISHIYAMA, Project Administrator
- Mr. Stephen Turkson, M.A., Technical Officer 1
- Mr. Eric O.Odotei, Technical Officer 2

2. Council for Technical and Vocational Education and Training(COTVET)

- Mr. Daniel Baffour-Awuah, Executive Director

3. Ministry of Education

- Mr. Charles Y.Aheto-Tsegah, Director, Planning of Budget and Management of Education

4. Ministry of Trade and Industry

- Mr. Robert B. Tandor, Deputy Chief Industrial Promotion Officer, Department of Small and Medium Enterprises & Industry
- Mr. S.N.D.Nartey, Deputy Chief Industrial Promotion Officer, Ditto
- Ms. Jasepline Dotsi, Assistant Industrial Promotion Officer, Ditto
- Ms. Sitsofe Ams Gadanku, Assistant Industrial Promotion Officer, Ditto
- Mr. Bernard Mfodwo, Director, Department of Research Information Statistics

5. National Council for Tertiary Education \*Past C/P before establishment of COTVET (NCTE)

- Mr. Paul Dzandu, Deputy Secretary

6. Ghana Education Service(GES)

- Mr. Asamoah Duodu, Director, Department of Technical and Vocational Education

7. GET FUND

- Mr. Daniel Boateng Ansong, Deputy Administrator

8. National Board for Professional and Technical Examination (NABPTEX)

- Mr. Antwi Bosiako, Executive Secretary

ABTA

9. World Bank

- Mr. Peter Darvas, Senior Education Economist/Education Sector Coordinator

10. Pilot Institutes of the Project

(1) Accra Polytechnic

- Dr. Addo Yobo, Rector

(2) Accra Technical Training Center (ATTC)

- Mr. Ameyaw Baafi, Principal

(3) National Vocational Training Institute (NVTI)

- Mr. Stephew Bismark Amponsah, Director
- Mr. John A. Ocran, Deputy Director of Testing
- Mr. B.O. Anyetei Sowah, Head, Department of Apprenticeship
- Mr. Godwin A.Y. Kudese, Head, Department of Pilot Training Center (PTC)
- Mr. Maxwell Kofi Zany, Center Manager, PTC
- Mr. S.C. Keelson, Head, Department of Electronics, PTC
- Mr. S.K. Nyakor, Facilitator, PTC
- Mr. Timothy A. Yaakwa, Facilitator, PTC
- Mr. Adelaide Anina, Facilitator, PTC

(Other Interviewees)

- Mr. Solomon Adjivon, Electronic Technician, Ghana Electronics Servicing Technician Association (GESTA)
- Mr. David Recford Foley, ditto
- Mr. Emmanuel B. Morrison Electronic Technician, Progressive Electronics Technicians Association of Ghana (PETAG)
- Mr. Ahmeo Iddrisu, ditto

11. Non-pilot Institutes

(1) Vocational Training for Female

- Ms. Comfort Ntiamoah-Mensah, Former Director

(2) Tema Technical Institute

- Mr. George N.T. Provençal, Principal
- Mr. A.K. Amoah, Vice Principal of Academic
- Mr. P. Aggei-Aye, Vice Principal of Administration
- Mr. Simon Nyameke, Head of Department of Welding

(3) NVTI Dansoman

- Ms. Susama Duh, Center Manager
- Mr. Emmanuel Ashie, Senior Training Officer



- Mr. Seth Kwasi Almoah, Assistant Instructor, Department of Electronics

## 12. Associations of Pilot area

### (1) Ghana Electronics Servicing Technicians Associations(GESTA)

- Progressive Electronics Technicians Association of Ghana

### (2) Association of Ghana Industries (AGI)

- Mr. Cletus J. Kosiba, Executive Director / CEO

### (3) Ghana National Association of Garage

- Mr. Kwaku Amponsah-Oteng, Chairman
- Mr. Simon C.K.Acquah, National Chairman
- Mr. Dennis Owusu, Vice Chairman, Zone 9
- Mr. B.O.Anyetei Sowah,

## 13. Companies

### (1) TV3

- Mr. A.B.Dickson, General Manager, Engineering Department
- Mr. Timothy Agbozo, Engineer (who finished NVTI)
- Mr. Issaka Salifu, In-plant trainee(who belonging to NVTI)

**Annex 3: Project Design Matrix(PDM)**

Version: 0

Project Period: 1 April, 2007 to 31 March 2011 (4 years)

Project Name: Technical and Vocational Education and Training Support Project (TVETS Project)  
 Implementing Organizations: Council for Technical and Vocational Education and Training (COTVET)  
 Target Group: TVET Students, Labour, and Companies in Ghana Target Area: Nation-wide

Date: 1 April, 2007

| Narrative Summary   | Objectivity Verifiable Indicators <sup>1</sup>  | Means of Verification  | Important Assumptions   |
|---|---|--|---|
| <p><b>OVERALL GOAL</b><br/>                     *To be realized by end of Year 2016 by COTVET.</p> <p>1. Increased number of TVET Training Institutions with CBT.</p> <p>2. Qualifications Accreditation System is operational.</p> | <p>*To be realized by end of Year 2016 by COTVET.</p> <p>1) Number of training packages at the intermediate and advanced levels.</p> <p>2) Number of technical training packages implemented at intermediate and advanced levels.</p> <p>3) Number of Industrial Training Advisory Sub-committee (ITAC Sub-committee) increases on technical areas other than mechanical engineering.</p> <p>4) By the end of Year 2016, number of trainees who received CBT increases by 30% from the end of March, 2011.</p> <p>5) Number of demand-oriented TVET with CBT increases at training subjects other than mechanical engineering.</p> <p>6) Pass rate of the trainees on each competency level continuously kept at 70% and above.</p> | <p>• Annual Report of Council for Technical and Vocational Education Council (COTVET).</p> <p>• ESP Review report by MOESS.</p> <p>• Annual Education Sector Review by MOESS.</p> <p>• Annual Report of Industrial Technical Advisory Board (ITAC).</p> <p>• Qualitative survey to the trainees and companies, conducted by Training Quality Assurance Committees (TQAC).</p> <p>• Annual Report of National TVET Qualifications Committee (NTQC).</p> | <p>1) Human and financial resources are continuously allocated by both GOG and the Industry sector.</p> <p>2) Staff seconded by private sector are continuously assigned, if any.</p> |

<sup>1</sup> Note that some indicators for evaluation cannot be set at the inception of the Project, and thus, indicators for evaluation shall be determined in consultation with counterpart at early stage of the Project implementation.

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|   |  |   |   |
|---|--|---|---|
| <p><b>PROJECT PURPOSE</b><br/>         *To be achieved by end of March, 2011 by Project and COTVET.</p> <p>To strengthen implementation capacity of COTVET and its related institutions for introducing CBT in TVET delivery in Ghana, by strengthening organizational capacity of TVET implementing institutions for formulating necessary operational guidelines on TVET through human resource development and by piloting CBT on mechanical engineering at TVET training institutions in and out of Accra, leading to forming a National TVET Qualifications Framework and Qualification Accreditation System under COTVET.</p> | <p>*To be achieved by end of March, 2011 by Project and COTVET.</p> <ol style="list-style-type: none"> <li>1) Occupational Standards on mechanical engineering and training package, including curriculum, syllabus, training modules, training materials to be used at pilot training institutions) is developed.</li> <li>2) Trainees receive CBT at pilot training institutions.</li> <li>3) Pass rate of the trainees on mechanical engineering at each qualifications level of piloting continuously kept at 70% and over.</li> </ol> | <ul style="list-style-type: none"> <li>• Annual Report of COTVET.</li> <li>• ESP Review report by MOESS</li> <li>• TVET-related reports prepared by MOESS and MMYE.</li> <li>• Annual Report of ITAC</li> <li>• Annual Report of NTQC.</li> <li>• Qualitative survey to the trainees and companies, conducted by TQAC.</li> </ul> | <ol style="list-style-type: none"> <li>1) Public-private partnership is maintained for conducting industrial attachment training programs.</li> <li>2) Human resources assigned to TVET Implementing Institutions are retained.</li> <li>3) Human resources assigned by the private sector to the TVET Implementing Institutions are retained, if any.</li> </ol> |
|---|--|---|---|

ASIA

**OUTPUTS**

1. COTVET is established and TVET Implementing Institutions acquire improved institutional and implementing capacity to deliver TVET under COTVET.

2. Improved operational mechanism over TVET delivery through lessons learned from piloting CBT on mechanical engineering.

3. Improved mechanism to introduce CBT on other technical areas.

**For Output 1:**

- 1) TVET Implementing Institutions are established, and necessary duties are performed by the GOC
- 2) Improved understanding of TVET, particularly on public-private partnership on TVET.

**For Output 2:**

- 1) Training packages on mechanical engineering, including curriculum, syllabus, training modules, training materials is developed at pilot training institutions.
- 2) Demand-oriented TVET with CBT is conducted on mechanical engineering at pilot training institutions.
- 3) Trainees at pilot training institutions take part in industrial-attachment training programs.
- 4) Increased job opportunities at pilot training institutions in improved active openings ratio.

**For Output 3:**

- 1) Increased number of other technical areas other than mechanical engineering, to be selected by Needs Survey conducted by ITAC.
- 2) Increased number of companies that participate in demand-oriented TVET.
- 3) Seminars and workshops on TVET are held to promote participation in demand-oriented TVET.
- 4) Increased number of ITAC Sub-committees established on technical areas other than mechanical engineering.

**Annual Report of COTVET.**

- ESP Review report by MOESS
- TVET-related reports prepared by MOESS and MMYE.
- Annual Report of ITAC
- Annual Report of NIQC.
- Qualitative survey to the trainees and companies, conducted by TQAC.
- Monitoring records maintained by the Project.
- Result of Needs Surveys conducted by ITAC.

**1) Established Funds for the introduction of CBT method are effectively utilized with audits by the third party institutions.**

- 1) Established Funds for the introduction of CBT method are effectively utilized with audits by the third party institutions.
- 2) Collaboration with the Industry sector is obtained for the implementation of industrial-attachment trainings.

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**ACTIVITIES**

- OUTPUT 1: COTVET is established and TVET Implementing Institutions acquire improved institutional and implementing capacity to deliver TVET under COTVET.**
- 1-1: To assist counterparts in forming TVET Implementing Institutions such as COTVET, ITAC, NTQC, TOAC, and YEAC Sub-committee on mechanical engineering.
  - 1-2: To enhance human resource development of technical staff at TVET Implementing Institutions for acquisition of necessary knowledge and skills to deliver TVET under COTVET framework.
  - 1-3: To select pilot TVET Training Institutions for demonstrating CBT on mechanical engineering, leading to formulation of National TVET Qualifications Framework and Qualifications Accreditation System under COTVET framework.
  - 1-4: To assist counterparts in formulating occupational standard (TVET qualifications levels), curriculum development on mechanical engineering as well as preparing standardized curriculum development and update methods.
  - 1-5: To assist counterparts in conducting symposium and workshops to enhance understanding of public-private partnership, and public relations activities through web pages on internet and other medias.
  - 1-6: To undertake M&E of the above-mentioned activities.

**INPUTS**

**Japanese side**

Approx. 3.34 million U.S. Dollars at ¥119,78 Yen = 1 U.S. Dollar

- 1. Dispatch of experts:
  - Long-term: Chief Advisor (Technical Education Management) 48 Man/Month
  - Project Administrator 48 Man/Month
  - Total Long-term experts: 96 Man/Month
  - Short-term: Education Equipment Maintenance 9 Man/Month
  - Any other experts can be dispatched within budget line.
- 2. Assignment of Technical Officers
  - Regulatory Control on TVET Delivery 8 Man/Month
  - TVET Institutions/Curriculum Development 48 Man/Month
  - Piloting and TOT 48 Man/Month
- 3. Provision of equipment within scope of Project and budget line.
- 4. Acceptance of trainees in Japan
  - Technical Education Management 2 participants/year x 4 years
  - Teaching method and Curriculum Development 2-3 participants/year x 1 month x 4 years
 (Participants are selected by mutual consultation with experts and counterparts.)
- 5. Study Tour on TVET in countries where CBT is already implemented
  - (Participants are selected by mutual consultation with experts and counterparts.)

- Funds for the introduction of CBT are established by GOG and Industry Sector.
- Necessary budget and resource allocations by both Public and Industry Sectors are made to the TVET Institutions.
- Human resources assigned to the TVET Institutions are retained.

**Pre-conditions**

- TVET Law is activated before the inception of the Project.
- Firm commitment by the counterpart ministries to establish TVET Implementing Institutions is obtained.
- Secretariat of the COTVET is established.
- Industry Sector fully understands the needs as well as concept of the introduction of CBT method in the TVET System in Ghana.
- Firm commitment by the Industry sector to introduce CBT is obtained.

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**ACTIVITIES**

- OUTPUT 1: Improved operational mechanism over TVET delivery through lessons learned from piloting CBT on mechanical engineering.
- 2-1: To assist counterparts in development of syllabus and training modules for CBT at piloting TVET Training Institutions as well as in preparation of update method.
- 2-2: To assist counterparts in preparing Training of Trainers (TOT) materials on a) teaching method; b) curriculum development on mechanical engineering for instructors at pilot TVET Training Institutions; and c) Operational guideline and training materials for industrial attachment programmes.
- 2-3: To assist counterparts in conducting TOT on teaching method and curriculum development on mechanical engineering for instructors at pilot TVET Training Institutions.
- 2-4: To assist counterparts in piloting CBT on mechanical engineering, leading to forming a National TVET Qualifications Framework and Qualification Accreditation System under CO/VEI.
- 2-5: To assist counterparts in conducting industrial attachment programme on mechanical engineering.
- 2-6: To assist counterparts in evaluating CBT at pilot TVET Training Institutions, and to reflect lessons learned on the process of formulating a National TVET Qualifications Framework and Qualification Accreditation System under CO/VEI.
- 2-7: To assist counterparts in conducting VEEF on the above activities.
- 2-8: To assist counterparts in reflecting lessons learned from the above activities onto training activities by other TVET Training Institutions.

**INPUTS**

**Ghana side**

- 1. Counterparts and other personnel
  - (1) Full-time counterparts to each expert.
  - (2) Full-time counterparts to each third country consultants.
  - (3) Other full-time personnel for the Project.
- 2. Facilities
  - (1) Office space (an office for Chief Advisor, an office for administration with appropriate meeting space, communications means, land, buildings, facilities, and equipment necessary for the Project
- 3. Local costs
  - (1) Salary and wages as well as allowances to counterparts and other staff.
  - (2) Other recurrent costs of the Project (e.g. utilities fees, etc.)

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**ACTIVITIES**

**OUTPUT 3: Improved mechanism to introduce CBET on other technical areas.**

- 3-1: To assist counterparts in conducting and introducing net-3 surveys
- 3-2: To assist counterparts in enhancing more involvement of private sector with TVET delivery
- 3-3: To assist counterparts in forming ITAC Sub-committees on areas other than mechanical engineering
- 3-4: To assist counterparts in conducting advocacy on TVET delivery under CO-TVET framework through holding workshops and seminars on TVET
- 3-5: To assist counterparts in conducting M&E on the above activities.

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