

## Summary of Terminal Evaluation

<b>1. Outline of the Project</b>	
Country: Turkey	Project Title: The Industrial Automation Technology (IAT) Extension Project for Central Asian and Middle East Countries in The Republic of Turkey
Issue/Sector : Education-Technical and Vocational Education and Training	Cooperation Scheme : Technical Cooperation
Division in Charge: JICA Turkey Office	Total Cost: 224,317,000 yen (As of evaluation)
Period of Cooperation: February 2012 – April 2015 (Three years and three months)	Partner Country’s Implementing Organization: General Directorate of Vocational and Technical Education (GDVTE), Ministry of Nation Education (MoNE)
	Supporting Organization in Japan: N/A
<p><b>1.1 Background of the Project</b></p> <p>The Government of the Republic of Turkey has focused on implementing policy measures to strengthen its global competitiveness of manufacturing industries, and to introduce advanced technology and promote capital intensive industries to enable the delivery of high valued products and services since the 1990s. The Government of the Republic of Turkey has in conjunction prioritized the improvement and strengthening of technical and vocational education schools so as to supply the labor market with capable technicians and skilled human resource. In this context, the Project “Establishment of Industrial Automation Technologies Departments in Anatolian Technical High Schools” was successfully carried out jointly by the General Directorate of Vocational and Technical Education (GDVTE) of MoNE and JICA from 2001 to 2006 with the aim of establishing IAT departments with international standard. Through the project, IAT departments were established at Anatolian Technical High Schools in Izmir and in Konya respectively.</p> <p>Following the successful implementation of the above-mentioned project, MoNE subsequently set up IAT departments in 20 schools. In addition, the Teachers Training Center (TTC) was established at Mazhar Zorlu Technical and Industrial Vocational High School (MZTVH) in Izmir in 2006 with the aim of developing the teaching staff who will work at the IAT departments of the 20 schools. Founded on the training provided at these schools as well as at the TTC, nationwide extension of the industrial human resources technology education progressed.</p> <p>By the completion of the afore-mentioned project, “Ninth Development Plan of Turkey (2007-2013)” was formulated as the country’s national development policy, re-emphasizing the importance of strengthening human development axis. This emphasis led to the technical cooperation “The Project on Strengthening the Program of Expanding Industrial Automation Technologies Department” (SPREAD) (2007-2010) which established teacher training implementation system at MZTVH TTC. During the life of the project, TTC developed teacher training curriculum as well as syllabus for 16 courses, and conducted training for 727 teachers drawn from the technical schools nationwide by 2010. After the completion of the project, TTC further expanded its implementation and management system for teacher training on industrial technology, by introducing e-learning and training for practitioners of private companies.</p> <p>Against such backgrounds, the Government of the Republic of Turkey, gaining confidence through these successful initiatives, decided to transfer the knowledge and experiences acquired through the</p>	

above-mentioned projects to vocational and technical teachers of IAT (including electric-electronics, mechatronics, mechanics, and ICT) fields in the countries in Central Asia and Middle East regions by means of providing training at TTC of MZTVH. In response to the request by the Government of the Republic of Turkey to the Government of Japan (GoJ) for assistance, JICA dispatched the detailed planning survey team to Turkey in November 2011, and agreed on the framework for this technical cooperation. Within the country MoNE requested support from Turkish Cooperation and Coordination Agency (TIKA) for project implementation. The Project was then launched in February 2012 and is scheduled to continue through April 2015.

## 1.2 Project Overview

### (1) Overall Goal of the Project:

Technical education and vocational training capacity on IAT of target countries is enhanced.

### (2) Project Purpose:

Technical education and vocational training capacity of teachers in IAT in target countries is enhanced.

### (3) Outputs

- 1) Training for target group is appropriately planned.
- 2) Training for target group is effectively provided.
- 3) Follow-up system is established.

### (4) Inputs (As of the Terminal Evaluation)

#### Japanese side:

- Japanese Experts: A total of 5 Experts (a total of 29.6M/M)
- C/P Training in Japan: A total of 3 C/Ps
- Equipment: EUR 66,507 (approximately JPY 9.1 million)
- Operational Expenses: TRY 1 million (JPY 48.2 million)

#### Turkish Side :

- C/Ps: 1 Project Director, 1 Project Manager, 5 to 7 IAT Trainers at a time
- Facilities: office space at TTC as well as five laboratories
- Operational Expenses: TRY 829,536 (approximately JPY 39.9 million)

## 2. Evaluation Team

Members of Evaluation Team (Japanese side)	[Leader]	Mr. Masahiro UEKI, JICA Turkey Office
	[Evaluation Planning]	Ms. Miyuki KONNAI, JICA Turkey Office
	[Evaluation Planning]	Dr. Emin ÖZDAMAR, JICA Turkey Office
	[Evaluation Analysis]	Dr. Maki TSUMAGARI, IMG Inc.
Evaluation Period	September 15th to 27th, 2014	Type of Evaluation : Terminal Evaluation

## 3. Results of Evaluation

### 3.1 Confirmation of Results

#### (1) Achievements of Outputs

All the indicators set for Output 1 (“Training for target group is appropriately planned”) have been met by the time of the Terminal Evaluation and thus Output 1 is considered achieved.

Four training courses are yet to be conducted between the Terminal Evaluation (September 2014) and the completion of the Project period. However, based on the following high prospects for meeting each indicator, the achievement of Output 2 (“Training for target group is effectively provided”) is deemed

probable.

On the part of TTC, thorough preparation for the web-based information system as well as for the administration of the follow-up survey have been managed. However, for the system to be established for actual functioning, engagement of trained participants is essential, so that data for training impact assessment is gathered. As overall level of such engagement of the trained participants have been far from adequate, and this trend cannot be turned around easily due to already identified difficulties (such as language and internet connection barriers), the prospect for achieving Output 3 (“Follow-up system is established”) is limited to the extent of the responses by the trained participants.

#### (2) Prospect for Achieving the Project Purpose

The prospect for meeting the determined Country Focused Training (CFT) or Group Training (GT) indicators is mixed, with high potential for Kazakhstan and Pakistan, while low for Azerbaijan and medium for GT countries. Therefore, the overall prospect for achieving the Project Purpose (“Technical education and vocational training capacity of teachers in IAT in target countries is enhanced”) is fair.

#### (3) Prospect for Achieving the Overall Goal

The achievement of the indicator will require resource input (financial, technical, and logistical), either by own effort of the participating countries’ Ministry of Education or through support by external sources. One emerging case is Kazakhstan, where additional/separate larger context input (e.g. Japanese Government resource for supporting small/medium sized business acquired in Kazakhstan channeled to the pilot institutions of this Project, World Bank assistance to educational institutes in Kazakhstan included the pilot colleges, etc.) has been secured to produce emerging results: At three out of the four pilot institutions, IAT course has started, with equipment purchase arrangement in process. Large part of accessing such further support has been arranged by the Project, reaching out to Kazakhstan as a part of Project activities. This kind of additional handholding required for meeting the Overall Goal (“Technical education and vocational training capacity on IAT of target countries is enhanced”) will not be available to the other participating countries at post-completion stage of the Project period. Therefore, the prospect for achieving the Overall Goal (which is by default a goal for the implementing agency to achieve by own effort AFTER the Project period) against the preset indicator is fair.

### 3.2 Summary of Evaluation Results

#### (1) Relevance: High

The relevance of the Project is evaluated as high based on its close alignment with (1) Government policy of the Republic of Turkey, particularly that pertaining to their own international cooperation agenda to the neighboring countries, (2) strategic plan/direction of MoNE in regard to TVET, (3) the needs of the participating countries, (4) the Japan’s ODA Policy, and (5) comparative empirical and technological advantage of Japan’s cooperation.

#### (2) Effectiveness: Fair

The effectiveness of the Project is assessed as fair, for the prospect for meeting the Project Purpose as determined by the indicators is mixed, with high potential for Kazakhstan and Pakistan, while low for Azerbaijan and medium for GT countries. For stronger achievers, Kazakhstan and Pakistan, CFT for Executive Managers as well as that for TVE Managers under Output 1 paved a way to secure high level

engagement of the participating countries' Ministry of Education for later activities. Particularly for Kazakhstan, it is evident that the successful achievement of the Outputs coincided with parallel inputs and efforts that were drawn to the IAT pilot colleges from other sources, such as Japanese Government scheme for supporting small/medium sized business connected with the Project's IAT pilot colleges and World Bank assistance to educational institutes in Kazakhstan.

In addition, Output 3 signified that without direct/effective interface for communication between the C/P and the participants, the prospect for achieving it is limited at most. Application process for the training participants had to be conducted as logistical and administrative matter led by TIKa. However, country specific situations added difficulty for enforcing technical relevance in the selection, resulting in the recruitment of less than ideal candidates in some cases.

### (3) Efficiency: High

The Efficiency of the Project is evaluated as high in view of the five dimensions of Input-Output relationships that the Project managed for results.

#### 1) Causality of Inputs and Outputs

The training schedule was prepared in accordance with the Turkish calendar. Given participating countries might be dictated by different budget/academic calendars, a diagnostic analysis on the best timing could have increased the efficiency of Input-Output relationship. Yet, annual schedule, planned well in advance and adjusted where necessary in close consultation with JCC has run satisfactorily, and converted inputs into outputs. The only bottleneck or leakage (such as no-response to the survey) arose where C/P do not have direct communication channel with the trained/to-be-trained participants to ensure input is converted into outputs.

#### 2) Achievements of Outputs

The important assumptions set for the Project at the launch ("As results of the need survey in CFT target countries, local government agreed the target institution and content recommended by the survey team" and "A discussion for training content identification was implemented among the GT target countries") largely held to support the Outputs to be produced.

#### 3) Appropriateness of Inputs by Japan

The planned input was disbursed. However, in light of the evolving situations not foreseen at the planning stage (e.g. departure of many C/P from the preceding Project, that shrunk the C/P cohort down from around 25 personnel to seven at the Project start, which was further reduced to five due to staffing needs of the MZTVH), additional input was required for effective execution of the Project. In this relation, a short term expert on curriculum design was arranged. This input was highly valued by both the Japanese and Turkish sides with a remark that it would have been even more effective if this intervention was possible earlier in the course of the Project.

#### 4) Appropriateness of Inputs by the Turkish side

Turkish side also made the effort in securing resources to support the Project activities. The most challenging part of the resource acquisition related to the C/P assignment. Manpower needs to meet the planned activities at TTC was calculated at 77.7 MM/year requiring seven full time personnel. Yet, five C/P had to shoulder this load, each responsively performing more than one person's full time job.

Turkish side contributed also to procure some equipment/supplies in the first and second year from TIKa budget. Due to unforeseen circumstances, however, the third year applicable budget of TRY 50,000 (approximately JPY 2.4 million) has not been disbursed. MoNE and TTC are expecting to spend this

allocated amount in the near future.

5) Adherence of each participating agency to the pre-determined contribution ratio

Overall, the original agreement for cost sharing signed in R/D that reads “Shared portion of JICA shall not exceed seventy percent (70%) of the total amount” was adhered with JICA having contributed 55% of the total cost (on actual basis) up to September 2014.

(4) Impact: Fair

One significant impact being emerged is with Kazakhstan, where additional/separate larger context input (e.g. Japanese Government resource for supporting small/medium sized business acquired in Kazakhstan channeled to the pilot institutions of this Project, World Bank assistance to educational institutes in Kazakhstan included the pilot colleges, etc.) has been secured to produce emerging results: At three out of the four pilot institutions, IAT course has started, with equipment purchase arrangement in process. Large part of accessing such further support has been arranged by the Project, reaching out to Kazakhstan as a part of Project activities. While classes are already in progress, to ensure quality in the knowledge and skills to be offered at the course administration, MoNE, TIKA, and JICA have discussed and agreed on the dispatch of the Project’s Turkish C/P to Kazakhstan as Third Country Experts. The arrangement is in the pipeline and when materialized, is anticipated to positively impact the achievement of the Overall Goal. It is reported that, Pakistani participants of the Project training are also willing to receive dispatch of Project’s Turkish C/P to Pakistan as Third Country Experts. In addition, Pakistani Government is eager to launch legislation process for establishing centralized vocational school.

This kind of additional handholding required for meeting the Overall Goal will not be available to the other participating countries at post-completion stage of the Project period unless the Project can provide similar, proactive reach out to the rest of the participating countries. Therefore, the prospect for achieving the Overall Goal (which is by default a goal for the implementing agency to achieve by own effort AFTER the Project period) against the preset indicator is fair, suggesting the Project impart to be fair.

(5) Sustainability: Fair

A comprehensive assessment, as described below, warrants a rating of fair for the sustainability of Project achievements.

1) Institutional Aspect

Roles and responsibilities of the responsible parties of the Project were defined in R/D and understood among MoNE, TIKA, and TTC: MoNE to take the overall responsibility of the management and implementation of the Project, including the overall coordination among all the stakeholders; TIKA to coordinate the implementation of training, including coordination with its target country offices to liaise with the participants and their institutions; TTC to develop and deliver training, as well as to provide post-training follow up to the participants for later, in-country work. However, it is uncertain if the respective parties were fully aware of and ready to commit in the complexities involved with managing international training programs for which they do not have full control for envisaged results.

Each organization has own mandate that restricts them from flexibly and directly responding to the evolving needs that have popped up during the course of the Project. For example, while technical issues are best dealt by the TTC, they are not in a position neither have the ability to communicate with some participants with whom they do not share a common language. Such situations required the interface by translator(s) procured as a part of Project activities. Going forward, such complexities will remain, and

while each challenge has been managed by the concerted efforts, pose a question on how institutional sustainability will be ensured beyond Project period.

#### 2) Technical Aspect

Through the Project, C/P strengthened coordinative, managerial, and administrative capacity in planning, delivering, monitoring, and improving IAT training for trainers. Except for the Advanced Course, the trainers have accumulated solid expertise for course administration. Since it typically takes multiple cycles of running a course for its program to be tested, refined, and standardized, for the C/P to become able to offer a full-fledged IAT training package of Basic, Intermediate, and Advanced Courses, running multiple cycles of courses, particularly those of the Advanced where there is less track record, would be preferable in order to build up technical sustainability. It has proven through the Project that their expertise as instructors of IAT field is of international value, which in turn is an important asset for Turkey as they can contribute to the capacity enhancement vision of the Turkish Government in strengthening its global competitiveness in manufacturing industries. It is hoped that their expertise will be utilized while maintaining exposure to the neighboring countries, so that findings from international exposure will feed into further innovation in the country also to enable Turkey to hold its competitive edge.

#### 3) Financial Aspect

Most of the funding that was budgeted has been secured. Continued effort is sought to ensure financial sustainability.

#### 4) Other factors that will affect the sustainability of the Project achievements

During the Project period, exhaustive discussions were held regarding sustainability of TTC. As of now, its status as an attached service entity to MZTVH is anticipated to continue beyond the Project period. The needs for their service, either domestic for in-service training, or international, as an implementation arm to realize Turkish Government's national policy that emphasizes international cooperation, is anticipated to continue, and therefore, the sustenance of this entity should be a common agenda to be prioritized.

### 3.3 Conclusion

The relevance of the Project is evaluated as high based on its close alignment with (1) Government policy of the Republic of Turkey, particularly that pertaining to their own international cooperation agenda to the neighboring countries, (2) strategic plan/direction of MoNE in regard to TVET, (3) the needs of the participating countries, (4) the Japan's ODA Policy, and (5) comparative empirical and technological advantage of Japan's cooperation. The effectiveness of the Project is assessed as fair, for the prospect for meeting the Project Purpose as determined by the indicators is mixed, with high potential for Kazakhstan and Pakistan, while low for Azerbaijan and medium for GT countries. The efficiency of the Project is evaluated as high in view of the five dimensions of input-output relationships that the Project managed for results: (1) causality of inputs and outputs; (2) achievements of outputs; (3) appropriateness of inputs by Japan; (4) appropriateness of inputs by the Turkish side; and (5) adherence of each participating agency to the pre-determined contribution ratio. The prospect for achieving the Overall Goal against the preset indicator is fair, which in turn warrants a rating of fair for the Project impact. Project sustainability is also considered fair, based on a comprehensive assessment of the implementing agency's current institutional, technical, and financial aspects.

### 3.4 Recommendations

#### (1) Follow-up to secure technical sustainability through full-fledged IAT training course package (To MoNE, TIKA, JICA, TTC)

In the course of evaluation study, technical sustainability of the Project produced achievements has emerged as the utmost important common agenda of all the parties involved with the Project. A concern has been raised that given only one Advanced Course is scheduled before the completion of the Project, it might not allow the Project to fully test and refine the Advanced Course Program to make a full-fledged IAT training course package (i.e., Basic, Intermediate, and Advanced Courses).

In light of such revelation, the Terminal Evaluation Team recommends the Project to be extended for certain period of time to accommodate sufficient time to organize and deliver additional trainings (that include Advanced) to select countries based on the pre-agreed criteria (e.g. such as in-country resource availability to found IAT departments) so that the tested and refined program will ensure the sustainability of the technical expertise established by the Project. The Terminal Evaluation Team confirmed with C/P that this recommendation does not interfere with the MoNE plan for the TTC to provide in-service training from April 2015 and considers such strengthening will add benefit to the quality enhancement of the in-service training they will be tasked to deliver. In order to sketch out that this recommendation is feasible, each party is requested to review the following and agrees course of actions at JCC in the nearest future possible:

- TIKA: As have already promised to the Terminal Evaluation Team, collect feedback from the Project participating countries on their further needs and preparedness for additional training opportunity. (Feedback received thus far: Pakistan, Palestine and Kazakhstan Program Coordination Offices of TIKA informed that, the IAT programs were found very beneficial. Kazakhstan and Pakistan officials informed the TIKA Program Coordination Offices that they would like to continue the training courses in advance level.)
- TTC: Based on feedback obtained by TIKA, sketch out, on top of already scheduled 2015 in-service training, how much time and when such follow-up training activities can be scheduled.
- MoNE: Based on the analysis prepared by TTC above, determine when Project related follow-up training can be conducted, schedule wise, into TTC's 2015 calendar for in-service training that is planned under the supervision of MoNE.
- JICA: Based on the analysis prepared by TTC above, calculate resource requirement for the follow-up as well as how much can be provided by JICA.
- JCC: Discuss points mentioned above, and come up with an agreement for the follow-up.

#### (2) Post-training communication with the participants with language/access challenges (To TTC, TIKA)

Numerous challenges (primarily due to lack of common language between C/P and the participants and/or easy access to the internet on the part of the participants) have been experienced by the C/P for conducting web based follow-up survey after the participants return to respective countries. For the remainder of the training courses, therefore, participant-specified, support system consisting of (1) TTC C/P in charge of the participant's program, (2) TIKA Headquarter representative, and (3) the first-window-of-contact person at TIKA Office in the target country will merit for high risk participants. In order to ensure that the participant is aware that he/she is assisted by these three representatives who are networked between Turkey and his/her own country, pre-departure information should include who

these people are with which numbers/e-mail addresses. Then upon arrival at TTC, C/P should discuss with the participant the most preferred arrangement for his/her post-training communication. To ensure he/she will maintain communication post-training, the value of further networking with the IAT instructor and TTC should be made clear, as a resource for further consultation.

(3) Dispatch of the Third Country Expert(s)  
(MoNE to coordinate TIKA, JICA, and TTC)

In consultation with JCC, dispatch of Project C/P to Kazakhstan as the Third Country Expert(s) is being planned to provide technical support in ensuring quality in the knowledge and skills offered in the courses created based on the Project's training, and is anticipated to take place in the early part of 2015. Realization of this dispatch will be an epoch-making event, endorsing how capacitated C/P are through the Project. As the Project's overall coordinator among all the stakeholders, leadership of MoNE in moving the preparation and materializing fruitful implementation is sincerely sought as a proof of the Project's tangible outcome.

### 3.5 Lessons Learned

- Utilization of Web based resources (Output 3 related): While demand for IT dependent information sharing system is expected to continue increasingly, caution should be paid if the beneficiary of the Project are IT literate, have easy and not-costly access to the service, and there are common language to enable direct communication.
- Crafting of post-training follow up (Output 3 related): For bidirectional communications to last post-training, it will be important to pre-plan and advocate the benefit of sustaining the connection, such as for receiving informed feedback, etc.
- Early acquisition of institutional commitment for the third country participation (Project Purpose related): As the case of Pakistan suggests, acquiring high profile commitment early on enforces smooth operation in later stages (assuming that the persons either stay in the important positions or move to places with even more influences).
- Applicability of Overall Goal (Overall Goal related): By definition, Project's Overall Goal should refer to anticipated longer term (3-5 years after the Project completion) effects that will be derived by the effort of the implementing agency due to furtherance of Project achievements. The Overall Goal of this Project did not factor in the necessity of large scale resource input (e.g. for purchasing IAT equipment) that is essentially a pre-requisite for the realization of the Goal.
- Mobilization of third countries' in-country resources to support triangular cooperation: (overall): As more aid recipient countries graduate from its status and moves to occupy a donor position in aid community, grant giving and receiving relationship changes into more of partnership to collaborate in support of third country assistance. There, clear, one-on-one accountability of receiving aid that is available to bilateral cooperation cannot be established, as while JICA provides support to the implementing agency JICA might not have direct access to the third-country beneficiaries to seek accountability for the support provided. This Project, sought to manage nine-country-involved implementation by mobilizing third countries' in-country resources: In addition to bilateral arrangement with the target countries by the help of respective JICA country offices, the Project tapped other funding sources (e.g. World Bank, Ministry of Foreign Affairs of Japan), and tied them to support the institutions that send trainees to the Project.