

Development of Training Program and Curriculum for Tertiary TVET Skill level 4

1. Brief Program Information

The program “Support to Technical and Vocational Education and Training” (TVET Program) aims at developing a target-group differentiated and labor-market oriented vocational education and training system in Afghanistan. It supports the TVET Authority to improve the three core elements constituting a formal TVET system: labor-market oriented curricula, training of pre-service and in-service TVET teachers and a TVET examination system, all of which having nationwide validity. Within the framework of a pilot system comprising a pool of vocational schools offering technical and commercial profiles, a reform project has been piloted. The program consists of six intervention areas:

- Intervention area 1: Improving the effective operation of selected pilot schools
- Intervention area 2: Improving vocational school education for apprentices
- Intervention area 3: Facilitating cooperation between the private and public vocational training sectors
- Intervention area 4: Developing curricula geared to labour-market needs
- Intervention area 5: Capacity development for vocational training specialists
- Intervention area 6: Rehabilitation of 30 TVET schools

These Terms of Reference are related to intervention area **4** of the program.

2. Initial Situation

In international comparison Afghanistan lacks qualified workforce on ISCO skill level 3 (technician) and skill level 4 (professionals). 6,8% of the workforce in Afghanistan are technicians or engineers, whereas a significant higher share of the workforce in – for example - Bangladesh (21,9%) holds skill levels 3 and 4. Moreover the low share of technicians and engineers goes together with a high concentration of technicians and engineers in Kabul (about 90%). On the other hand, companies help themselves. Almost one third of the workers in small companies are so called advanced craftsmen. They are experts in their professions as well as managers of companies.

A second severe problem is the lack of standardized and up-to-date technical and organizational knowledge in the world of work in the country. Knowledge is handed over almost exclusively orally to the younger generation. Neither school based TVET programs nor universities are very helpful to overcome these problems. Secondary TVET as well as universities mainly focus on theoretical knowledge, not much relevant to the world of practice and mostly not application oriented. In addition, the vast majority of the Afghan youth has access neither to secondary TVET nor to university programs. The lack of a better skilled workforce, in particular on skill level 3 and 4 hampers the self-sustaining technical, organizational and economic development of the country.

The TVET Authority (TVETA) plans to start changing the situation by developing application-oriented training programs on skill levels 3 and 4, called tertiary TVET. Automotive, electrical and textile engineering (carpets, garments) are going to be the first professions which will be offered on two levels at tertiary TVET, most likely in Kabul, MeS and Herat.

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Curricula of future engineers of applied sciences (skill level 4) are the matter of this task description.

The development of the training programs needs to start from the scratch: identification and development of the teaching contents for skill level 4, based on job analysis (DACUM). The application-oriented knowledge needs to be a mix of theoretical background knowledge (why) of the whole array of subject areas as well as application-oriented knowledge (what to do and how to do). In order to achieve these objectives, university graduates and/or seasoned engineers should be engaged as developers of the abovementioned training courses.

For three months, the engaged experts will do internships in companies as to figure out knowledge and skills, needed for skill level 4. The findings will be discussed with TVETA, representatives from the private sector and GIZ-TVET. Based on the conclusions of the discussion, the teams will develop curricula, test items and specify equipment lists (medias, technical laboratory concepts, etc.). In consultations with the development teams TVETA will prepare admission conditions, training and exam regulations. The development team will get the chance to be engaged as first lecturers for application-oriented tertiary TVET programs in the country.

3. Mission Goal

The contractor will recruit university graduates or experienced engineers (3 per profession) who will – after internships in private companies – develop – with the support of GIZ-TVET experts – training programs for future engineers of applied sciences (skill level 4) in the automobile and electrical engineering sector of the Afghan economy.

4. Expert Profile of the Company

Requirement to the contractor are:

- This tender is open only for companies legally registered with Afghan government.
- Adequate and proven expertise in automobile and electrical engineering
- Excellent and proven experiences in curriculum development
- Understanding in the selection of application-oriented knowledge
- Excellent command in English and Dari Language
- Research experts with a master degree

5. Scope of Work

Work Package 5.1: Recruitment of development teams

The contract partner will:

- Identify engineers or university graduates who are willing to become lecturers for tertiary TVET courses on SL4.
- Search for small and medium sized companies which operate in the corresponding economic sectors and which are ready to absorb the team members (1/company) for 3 months.
- Conduct an induction workshop as to explain the overall pilot project.

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Work Package 5.2: Internships in private companies

The contract partner will support the team members during their in-company internships:

- Two weekly meetings with the internship teams
- Collection and discussion of observations and reports
- The trainees should give special attention to the identification of future training contents. The contents should be a mixture of background knowledge which enhances the basic understanding of technical concepts (functions and their parameters) and application-oriented knowledge (what to do and how to do as to adjust technical subsystems). The contractor will get an introduction to a content selection tool (Anderson Krathwohl Matrix) by the GIZ-TVET Program.
- The array of professional contents will be covered based on trade specific DACUM Charts, the kind of contents (facts, concepts, procedures, strategies) will be selected based on the Anderson Krathwohl Matrix.

Work Package 5.3: Development of training programs

Based on particular DACUM Charts for automotive and electrical engineering, made available by GIZ-TVET, and on the content selection and classification (Anderson Krathwohl Matrix) the expert teams will develop curricula for automotive and electrical engineering training courses for tertiary TVET, which will cover the whole array of:

- technical subject areas
- business management and administration subject areas. For these subject areas the contractor should use BA curricula from GIZ-TVET.
- pedagogical topics (with regard to the in-company training of apprentices)

Additionally, the contract partner will:

- conduct curriculum validation sessions with engineers from small, medium and large sized afghan companies
- present the curricula to leading staff in TVETA

Work Package 5.4: Development of test items

The contract partner will organize the development of test items (10 per subject and semester). These test items will orient future lecturers about the contents and difficulty level they need to achieve in their lessons.

Work Package 5.5: Development of learning materials

When it comes to the development of learning materials the contract partner will:

- build on Iranian textbooks for technical subjects to the extend deemed possible. Glossaries are available with GIZ-TVET.
- in the fields of business management and administration make use of learning materials, developed by GIZ-TVET.

Work Package 5.6: Concepts for technical laboratories

For each of the curricula and each semester the contract partner along with experienced teachers and lecturers will:

- identify those themes, which need to be passed on descriptive or causalities, which students should discover in technical experiments.

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- compile corresponding equipment lists for technical laboratories.
- prepare the tools depending on type to each selected school and prepares them for further use.

Cooperation with GIZ-TVET

The work on all work packages will be done in close cooperation with the GIZ-TVET Program. The deliverables will be presented and discussed with GIZ-TVET incrementally after the completion of a work package.

Duration

GIZ-TVET contract a local research company from 21st July 2019 Contract duration for this research project is for 5 months and company should be able to deliver the final version of the report by 30.12.2019.

6. Reporting and Deliverables

The contracted company should develop the research approach, research methodologies and tools in close cooperation with the TVET Program. The company should deliver brief progress reports on monthly basis, draft the final report and discuss the report with the program, write the final report and provide all research data and tools to the program.

Deliverables:

- Internship reports
- Overview of identified knowledge and theoretical competency gaps (based on Anderson/Krathwohl)
- Package of modularized curricula for training courses, skill level 4 at Tertiary TVET
- Package of test items (10 per module and semester)
- Proposals for technical laboratories