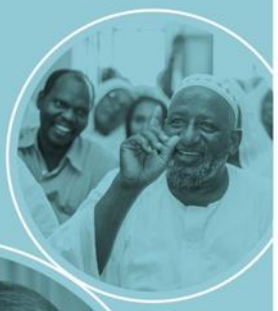
Corporate Unit Evaluation Central Project Evaluation

KNOWING WHAT WORKS



Central Project Evaluation

Programme Professional Education and Training in Central Asia

PN: 2016.2230.7

Evaluation Report

On behalf of GIZ by Mainlevel Consulting AG (Tatjana Mauthofer, Maksat Abdykaparov)

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The Evaluation Unit commissioned external independent evaluators to conduct the evaluation. The evaluation report was written by these external evaluators. All opinions and assessments expressed in the report are those of the authors.

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Contents

List of figures

List of tables

Abbreviations

ADB	Asian Development Bank
ATU	Almaty Technological University
BMZ	Bundeministerium für Wirtschaftliche Zusammenarbeit und Entwicklung German Federal Ministry for Economic Cooperation and Development
CPE	Central Project Evaluation
FMB	GIZ sectoral Unit
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH
HE	Higher Education
KAZ	Kazakhstan
KGZ	Kyrgyzstan
KfW	Kreditanstalt für Wiederaufbau
MSCT	Most Significant Change Technique
M&E	Monitoring and Evaluation
NaWi	Nachhaltige Wirtschaftsentwicklung (Sustainable Economic Development)
PBBZ	Programme Professional Education and Training in Central Asia
RC	Regional Committee
TC	Technical Cooperation
TJK	Tajikistan
ToC	Theory of Change
TUT	Technology University of Tajikistan
TSAU	Tashkent State Agragrian University
ToR	Terms of Reference
UZB	Uzbekistan

The project at a glance

Professional education and training in Central Asia

Project number	2016.2230.7
CRS-Code(s) (Creditor Reporting System Code)	11330
Project objective	Qualitatively improved education and specialists and management upgrading in the field of food production technology is implemented according to regionally comparable and international standards
Project term	11/2016 - 02/2019 (originally planned until 10/19)
Project volume	EUR 6.883.000 (Previously EUR 8.850.000)
Commissioning party	German Federal Ministry for Economic Cooperation and Development (BMZ)
Lead executing agency	GIZ
Implementing organisations (in the partner country)	Ministries of Education in partner countries (Kyrgyzstan, Tajikistan, Kazakhstan, Uzbekistan)
Other development organisations involved	-
Target group(s)	Teachers and graduates from educational institutes; companies in food processing

1 Evaluation objectives and questions

1.1 Objectives of the evaluation

The evaluation unit of the German Agency for Technical Cooperation (GIZ) commissioned the independent company Mainlevel Consulting AG with the evaluation of the GIZ project 'Professional Education and Training in Central Asia' (PBBZ; for the project description see chapter 3.1 'evaluation object'). It is a final project evaluation, as the project subject to this evaluation ended on the 28th of February 2019 as part of GIZ's centrally steered Central Project Evaluations (CPEs). This project was randomly selected for evaluation following the GIZ's CPE guidelines, whereby 50% of all GIZ projects are selected and sampled based on the regionally proportional distribution of annual project locations. The main stakeholders of this evaluation and their respective interests are:

- **GIZ corporate unit evaluation**: i) *accountability* towards the public (success rate of GIZ's projects); (ii) *learning* to understand strengths and weaknesses of single projects, applying lessons learnt in other countries as well as bolstering GIZ's reputation in participating countries; (iii) *informing* key stakeholders who inquire about GIZ activities in Central Asia and/or the vocational training sector.
- **BMZ:** *accountability* towards the public (success rate of German development cooperation projects).
- **Project team:** (i) *learning and improving* by integrating lessons learned in the follow-up project and (ii) *better understanding* of key stakeholder perceptions.
- **Key project partners, especially the partner ministries of the four countries:** (i) *learning* when it for future projects and (ii) *informing* key project partners on progress made by German international cooperation efforts.

The evaluation team would like to highlight two important issues at the beginning of this report. Originally, the project was planned to end in October 2019. However, the end of the project was preponed to 28th of February 2019, to support the start of a follow-up project. Secondly, the project director of this project retired shortly after its inception. An interim project director was appointed and subsequently replaced by a new project director just before the evaluation mission in October 2019.

1.2 Evaluation questions

The project is assessed on the basis of standardised evaluation criteria and questions to ensure comparability by GIZ. This is based on the OECD/DAC criteria for the evaluation of development cooperation and the evaluation criteria for German bilateral cooperation: Relevance, efficiency, effectiveness, impact and sustainability. Aspects regarding the criterion coherence, complementarity & coordination are included in the other criteria.

Specific evaluation dimensions and analytical questions are derived from this given framework by the GIZ. These evaluation dimensions and analytical questions are the basis for all central project evaluations in GIZ and can be found in the evaluation matrix (annex). In addition, the contributions to Agenda 2030 and its principles (universality, integrative approach, Leave No One Behind, multi-stakeholder partnerships) are also taken into account as well as cross-cutting issues such as gender, the environment, conflict sensitivity and human rights. Also aspects regarding the quality of implementation are included in all OECD/DAC criteria.

Specific evaluation dimensions and analytical questions originate from a framework developed by GIZ and form the basis for all CPEs. The evaluation questions were deconstructed and analysed to ensure a robust methodology and avoiding misinterpretation and anecdotal evidence. Therefore, the evaluation team filled and used an evaluation matrix, including evaluation indicators, as the basis for this evaluation (see annex 1).

During the inception mission, the evaluation team conducted a participatory exercise with project team members (‘Wish Tree’) to understand their respective interests in the evaluation and if they had additional questions or interests they wanted to be represented during the interviews. Additional knowledge interests highlighted by participants were: (i) aspects regarding the quality of education (e.g. ‘How can we ensure the quality of the educational programmes that PBBZ introduces at all times?’) and (ii) questions regarding collaboration (e.g. ‘How can we make the cooperation with political partners more constructive?’). Most of the articulated questions correspond with questions found in the OECD-DAC criteria and were integrated into the evaluation matrix where appropriate.

2 Object of the evaluation

2.1 Definition of the evaluation object

The main object under evaluation is the selected Technical Cooperation (TC) project titled: Programme Professional Education and Training in Central Asia, project number (PN: 2016.2230.7) and henceforth referred to as 'the project'. The total final budget of the project was EUR 6,883,000 (originally EUR 8,850,000) and did not use any additional co-funding. The project was implemented from 11/2016 - 02/2019 but was originally planned to end in October 2019. It involved partners in Kyrgyzstan (KGZ), Kazakhstan (KAZ), Uzbekistan (UZB) and Tajikistan (TAJ) seen in figure 1. The project exists as a single measure and does not form part of any BMZ sectoral programme. Two predecessor projects entitled: 'Professional education and vocational training in Central Asia'I (2010 - 2013) and II (11/2013 - 10/2016; PN: 2013.2220.5; project volume EUR 8,000,000) directly preceded the project's implementation. A follow-up project (PN 2018.2152.9; project volume EUR 5,500,000) began in March 2019, with the objective of institutionalizing changes to the pilot institutions that occurred during the project.

FIGURE 1: PROJECT PARTNER COUNTRIES

Political, socio-economic and sectoral framework of the project

In the last decade, Central Asian countries have received increasing attention from the international community, policymakers, foreign investors and academics due to their historical and geographical context (World Bank 2003). They are located in the heart of Eurasia between China, Russia, Europe and Afghanistan, making the region strategically important from a geographical point of view. After gaining independence from the Soviet Union, all Central Asian countries had similar levels of education (Batsaikhan & Dabrowski 2017). However, over the last two decades, the education systems have changed and diverged substantially. Today, each country possesses different contexts, conditions, legal frameworks and quality requirements. Together their public education systems share challenges such as underfunding, lack of qualified teaching staff, corruption, and outdated teaching programs and methodologies. Despite the region's overall proportionally young population, reforms in the sector remain slow. Additionally, the education sector throughout the region remains instrumentalized as a servant to political changes and mobilizing people - especially during elections. All Central Asian countries have faced economic challenges since transitioning from Soviet rule, particularly in the agricultural sector, which forms the base for a sustainable food industry and food security and across the region (UNECE 2013). In the last decade, the agricultural sector across Central Asia has slowly improved via increased export capability. The processing of agricultural food products now constitutes a considerable portion of gross domestic product and is the main source of income for a significant part of the population in KAZ, KGZ and TAJ. Heavy investments to the agriculture and food industry made by all countries (as a part of national strategies and policies) has contributed to the creation of new enterprises, leading to a growing number of companies, suppliers and

employees. To become competitive in both regional and global markets, these industries require technological upgrades, in addition to additional training capacity to ensure qualified staff at all levels including workers, technicians, engineers and managers. The demand for skilled labour is communicated by the food and agriculture industry in various ways and differs from country to country but often includes participating in steering committees, joining technical groups and sponsoring training providers in order to attract the most qualified graduates to join their staff. However, training for employees who go on to work in the food processing industry generally does not meet the high labour market standards necessary to comply with international requirements, as teaching staff do not receive state-of-the-art vocational training or training in subject didactics. Therefore, vocational education and training systems across Central Asia are not able to provide enough qualified experts and managers to meet the needs of the growing regional labour market. Lastly, there are few institutionalised partnerships between training and research institutions and the private sector to ensure that the education system enables improved employment opportunities.

The project in a nutshell

The project followed a multi-level approach, with interventions focused on the macro (regional policy dialogue and standard setting), meso (private sector collaborations) and micro (infrastructure and capacity building support for educational institutions) levels of analysis to reach the four intended outputs. To effectively provide technical assistance and qualitatively improve education systems through the introduction of new courses in food production technology, the project actively collaborated with both the political and implementing institutions in each country. The combined participation by relevant ministries (Ministry of Education, Ministry of Economy), public educational institutions (colleges and universities in each country) and the private sector (chambers of commerce, employers' associations, selected companies) ensured collective planning and inputs from different stakeholders. A detailed stakeholder map that illustrates the institutional landscape of the project is in section 3.2.

The Ministry of Education and Science of Kazakhstan, the Ministry of Education and Science of Kyrgyzstan, the Ministry of Education and Science of Tajikistan, and the Ministry of Higher Education and Vocational Training in Uzbekistan constitute the region's respective political counterparts for academic and vocational education and benefit from insights gained during regional dialogues and workshops. A key target group in the project includes teachers and trainers of selected pilot food technology educational institutions. Likewise, companies and professional associations also benefit from participating in trainings and contributing to dialogues. The final beneficiaries of the project are the young men and women who aspire to work as specialists and managers in the agri-food industry. According to information gathered during the field visits, no other development agency or donor contributed in the project's core focus area throughout the duration of the project, however, there are potential opportunities for further engagement from the World Bank and the Asian Development Bank (ADB).

2.2 Results model including hypotheses

The underlying evaluation design is based on Contribution Analyses (following Mayne, 2011). A project's Theory of Change (TOC) is a central element of Contribution Analysis and is necessary to connect credible causal statements regarding project interventions with subsequent observable results. At GIZ, TOC's are visualised in results models and complemented by a narrative that includes corresponding hypotheses. A results model is a graphical representation of the project. It describes the logical connection and interrelationship of results and explains how they contribute to the overall objective of the project. A results model defines all possible results, change hypotheses (including multi-dimensional causalities), system boundaries, assumptions, risks and external factors to give a clear view across the scope of the project. A key benefit of basing the evaluation on a results model is the enhanced visibility of causalities beyond linear and mono-dimensional relationships between different results on different levels of analysis.

Prior to the inception mission, the evaluation team reviewed the project's results model. Both the evaluation team and the project team agreed that the model required major revision to ensure a realistic representation of the project's activities and results in order to enhance its usage. The format of the previous results model was a 'BMZ Wirkungsmatrix' (results matrix of the commissioner), which only shows the project's four key

outputs and their respective indicators as a log frame. This structure fails to highlight any intermediate, medium or long-term results or potential future contributions the project may have. Furthermore, the underlying hypotheses, generally illustrated using arrows, was missing in the previous version. All team members contributed inputs to re-construct the results model and conceptualize a new inception report during the inception mission and a follow-up Skype discussion. The corresponding narrative, i.e. the elaboration of underlying hypotheses was also constructed. The figure below shows the revised results model in English. The original results model was shared to project members in Russian and German.

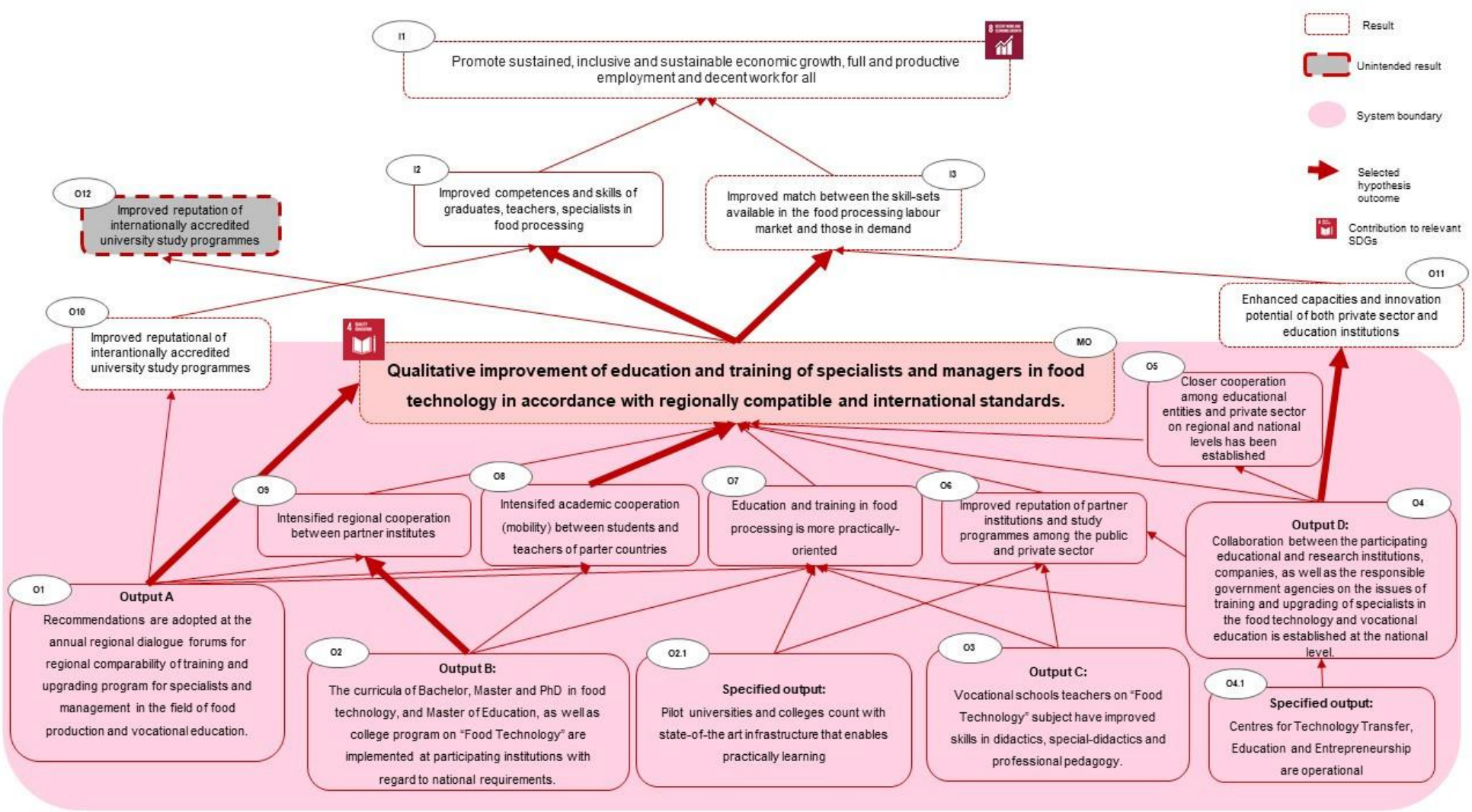


FIGURE 2: THE PROJECT'S RESULTS MODEL INCLUDING SELECTED HYPOTHESES FOR THE CONTRIBUTION ANALYSIS (DEVELOPED BY EVALUATION TEAM WITH INPUTS FROM PROJECT TEAM IN MAY 2019)

Project objective

The objective of the project is to improve the education and training of specialists and managers in the Central Asian food technology sector in accordance with regional and international standards in a qualitative manner resulting in four main outputs. The instruments applied in the project were a mixture of expert advice given by consultants combined with infrastructure and equipment procurement.

At output level

Output A is based on the successful adoption of recommendations stemming from regional dialogue forums dedicated to streamlining regional comparability of training programs for specialists and management engaged in food production and other vocational education activities (O1). The main activities implemented by the GIZ project team are the establishment of bi-annual regional dialogues between relevant stakeholders engaged in the education sector pertinent to food production and processing (such as education ministries, educational institutions and companies) of all partner countries. The drafting of key topics and recommendations stem from these dialogues and team members discuss the progress on the implementation of interventions. The role GIZ plays, with support of the four partner ministries, are the invitations to relevant institutions, organisation of the dialogues and the documentation of key decisions and progress on the implementation of the project. A detailed focus of these dialogues is the harmonization of study programs and teacher training as well as academic mobility programs that lead to more exchange of students and teachers between Kyrgyzstan, Kazakhstan, Uzbekistan and Tajikistan (O8). Regional dialogue representatives meet twice a year. During the first meeting, project members formulate and agree on two recommendations. The second meeting is dedicated to sharing experiences on the progress made on the recommendations agreed upon in the first meeting. The presumable contribution of output A to the project objective is the implementation of recommendations made during the meetings, leading to improvements to the respective educational institutions in the four project countries. The achievements of output A are based on the assumptions that regional dialogue forums are an adequately designed platform to bring forward recommendations and decision-making at regional levels and that participants who form part of these events show continuity, motivation and ownership as well as the necessary decision-making power to bring forward changes in their regions. A risk for non-achievement is the sudden withdrawal of one or more of the partners, such as in the case of UZB.

Output B calls for the creation of higher education degrees and curricula for a college program, Batchelor, Master and PhD in ‘Food Technology’ and a Master of Education to be implemented at participating institutions following national requirements (O2). To accomplish this, the project closely collaborated with both political and educational partners in each of the respective partner countries. A German consulting firm (GWT-TUD GmbH, a subsidiary of TU Dresden AG) was subcontracted to draft, introduce and redesign courses at the regional level for all partner countries, and GIZ project staff supervised and maintained the quality control of the developed deliverables. Private sector representatives contributed to curricula development by participating in working groups and adding insights into the curricula development process. A second important component in output 2 is the infrastructure provided to pilot institutions, i.e. universities and colleges in partner countries (O2.1). These investments in infrastructure include the set-up of a model brewery and milk-related laboratories at the Kara Balta Technical Economic College (a secondary professional education institution in the town of Kara Balta, Kyrgyzstan, which offers training in the professions of brewery / malting as well as milk processing) and laboratory equipment in partner institutions across the four project countries. With sufficient teacher capacity, training and education curricula can be oriented to reflect private sector conditions and standards, thereby making effective use of the new equipment provided (O7). Additionally, the Kara Balta Technical Economic College is testing a vocational education and training model that can serve as a model for best practices at both national and regional levels across project member countries. Due to recent improvements and proven proficient use of technology and equipment, the institutes’ reputation has risen (O6) leading local companies to conduct quality checks of their products and identify potential product innovations using their infrastructure and expertise. However, the newly developed study and training courses were not incorporated into the state education system, limiting wider and more sustainable outcomes.

Output C focuses on improving didactics, special didactics and professional pedagogy methods to vocational school teachers instructing 'Food Technology' courses (O3). The main activities in this output are the implementation of capacity building measures for teachers, trainers, and company representatives on both the didactical and technical aspects of food technology education and the organization of regional conferences used to introduce a training-of-the-trainer pilot programme. These activities involve teachers, trainers and companies from all four-project countries. Uzbekistan, the newest member of the project, had to be on-boarded via additional information and knowledge-sharing workshops. Three key assumptions were identified as a result of output C: (i) the specialist and management personnel who take part in the training events apply their newly gained knowledge in their professional practice; (ii) sector wide knowledge is multiplied via training and workshops and (iii) qualified skilled workers and teachers do not switch to better paid private sector jobs, choosing instead to stay in their teaching position.

Output D focuses on ensuring the collaboration between participating educational and research institutions, companies and relevant government agencies on issues regarding training and capacitating specialists engaged in food technology and vocational education at the national level (O4). A more tangible outcome of this output is the establishment of several Centres for Technology Transfer, Education and Entrepreneurship (CTTEE) throughout the different partner institutes in all countries but UZB (O4.1). The core idea behind the establishment of these centres was to provide a space to implement training sessions and workshops for both academic institutions and the private sector. The long-term objective is that the CTTEEs act self-sufficiently, which assumes that their services correspond with the demands and interest of companies. Other activities to promote engagement with the private sector include the implementation of career fairs and student competitions in KAZ and KGZ. Lastly, this output established regional internships, which enabled students to take part in exchange programs and bring new ideas regarding specific products by institutions from other countries (O5). Increased engagement from the private sector via the different aforementioned activities mentioned presumably improves the quality of education in terms of (i) better integration of needs of the private sector to professional education curriculum and (ii) closer and more direct collaborations that bring elements within the sector closer together. A key step in fostering this dynamic is the acknowledgement by the private sector of their need for highly qualified graduates to join their companies as staff members and a willingness to engage with education institutions to improve the general quality of education programmes. Thus, companies should not consider their support as part of their corporate social responsibility but rather as a return on investment by establishing closer collaborations. The CTTEEs face the risk of not achieving financial sustainability without additional financing once the project leaves.

At outcome and impact level

The aforementioned outputs within the system boundary, in theory, contribute to improved education and training in food technology according to national requirements and international standards, which in turn correspond with SDG 4 on Quality Education (MO). Additional targeted medium-term outcomes include the integration of inputs and recommendations generated by the exchange and discussions taking place during regional dialogue forums, in the ministries' institutional work (O10) and the identification of enhanced capacities and innovation potential from both private sector and education institutions (O11) as a result of their intensified collaboration.

At the impact level, improved food technology education leads to improved competences and skills of graduates, teachers and specialists in food processing. Working with innovative techniques and instruments presumably enhances the students' capacities and provides them with a competitive advantage when looking for employment opportunities. (I1). Furthermore, investing in quality education that incorporates practical training and close collaboration with the private sector, could contribute to an improved match between the skill-sets available in the food processing labour market and those in demand (I2). A key assumption in this regard is that economic growth levels, especially in the food technology sector, remain stable and that highly qualified employees continue to be in demand.

Eventually, the project contributes, at the impact level, to SDG 8, the promotion of sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all in Central Asia.

Reference to SDG 8 is highlighted in the project proposal. Additionally, the proposal articulates further contribution to SDG 2 (Elimination of Hunger) and carries the marker LE1 (Ländliche Entwicklung und Ernährungssicherung). Similarly, there is an indirect contribution to SDG 1 (Poverty Alleviation)/marker AO 1 (Armutsorientierung). Lastly, the marker UR1 (Umwelt- und Ressourcenschutz) was neglected by the evaluation team, as the contribution appears be to very indirect.

Additional information on the results model

The basis of a system boundary is the scope of control in a project. Phenomenon outside the system boundary is beyond the exclusive responsibility of the project, caused by other factors, stakeholders and interventions in the respective countries. In general, results that depend on the political climate and economic conditions of partner countries lie outside of the model's system boundary. Political (such as regional relations between the partner countries) or economic (growth of food technology sector) conditions cannot be controlled for in the project. The same yields true for results at the impact level, where various factors can contribute, either negatively or positively, (e.g. macro conditions, political climate, other donor programs) to the (non-) achievement of impacts. The contribution analysis examines these factors in more detail. The improved reputation of internationally accredited university study programmes among students was an unintended positive result detected during the inception mission. This outcome could lead to higher demand for the revised programmes and the replication of similar programmes both within and outside of the food-processing sector. Further unintended results came forth during the evaluation mission by employing specific methods to facilitate their identification. The project has a predominantly social dimension (employment generation and quality education) and contributes to the sustainable economic growth of the food-processing sector. The project concept changed slightly due to the re-entry of Uzbekistan in 2017. Indicator values regarding study programs were adapted accordingly. Lastly, as previously mentioned, the duration of the project preponed by seven months to allocate the leftover budget to the follow-up project.

3 Evaluability and evaluation process

3.1 Evaluability: Data availability and quality

The evaluation relied on a mix of primary and secondary data sources, summarized below:

Secondary project documents: Secondary documents include the project proposal, national strategies, annual progress reports, the BMZ Central Asia strategy and planning documents. Additional secondary data include the results matrix, the previous results model and a map of actors. In summary, the secondary project documents were of good quality and very informative, but a few of them were only available in Russian. In these cases, the regional consultant translated key information to the international consultant. An overview of all analysed secondary project documents is listed in Table 1.

TABLE 1: LIST OF BASIC DOCUMENTS

Basic document	Is available *(Yes/No)*	Estimation of actuality and quality	Relevant for OECD/ DAC Criterion:
Project proposals and overarching programme/funding proposal (etc.) and the 'Ergänzende Hinweise zur Durchführung' / additional information on implementation	Yes	*Project offer (2013) 2016, repeated offer*	*All criteria but mainly relevance*
Modification offers where appropriate	Yes	*To adapt project indicators once UZB re-joined (2018)*	
Contextual analyses, political-economic analyses, or capacity assessments to illuminate the social context in project countries	No		
Peace and Conflict Assessment (PCA Matrix), Gender analyses, environmental and climate assessments, Safeguard & Gender etc.	No	*No special documents, part of the project proposal 2013, 2016 Gender analysis, October 2018*	Relevance, effectiveness, Impact and sustainability
Annual project progress reports and, if embedded, programme reporting	Yes	*Progress reports for the periods of 11/2016 to 03/2018, 04/2018 to 02/2019*	All criteria
Evaluation reports	Yes	*Evaluation report and revision report of predecessor project (2016)*	
Country strategy BMZ	Yes	*Länderstrategie zur bilateralen Entwicklungszusammenarbeit mit der Kirgisischen Republik, 30.06.2017*	Relevance
National strategies	Yes	*The Development Program of the Kyrgyz Republic for the period 2018-2022 «Unity. Trust. Creation»*	Relevance
Sectoral/ technical documents (please specify)	Yes	*World Bank Studies: The Skills Road Skills for Employability (2014);*	Relevance
Results matrix	Yes	*Actuality: Up to date Quality: High Language: Russian*	All criteria

Results model(s), possibly with comments if no longer up-to-date	Yes	*Actuality: Not up to date (conceptualized prior to the project implementation in 2016); was updated during inception phase* *Quality: Medium* *Language: German*	All criteria
Data of the results-based monitoring system (WoM)[1]	Yes	*Actuality: Up to date* *Quality: High*	All criteria
Map of actors[2]	Yes	*Actuality: Up to date (2018)* *Quality: High* *Language: German*	Effectiveness, impact and sustainability
Capacity development strategy / overall strategy[2]	No		All criteria
Steering structure[2]	Yes	*Described in separate chart*	Efficiency and sustainability
Plan of operations	Yes	*Actuality: Up to date* *Quality: High* *Language: English*	Efficiency and effectiveness
Cost data (at least current cost commitment report / Kostenträger-Obligo Bericht). If available: cost data assigned to outputs	Yes	*Actuality:* (see remark in chapter 4.5) *Quality:*	Efficiency
Excel-sheet assigning working-months of staff to outputs	Yes	*Actuality:* (see remark in chapter 4.5) *Quality:*	Efficiency
Documents regarding predecessor project(s) (please specify if applicable)	Yes	*Project proposal (2013)* *Project proposal (2016)*	Predecessor(s)
Documents regarding follow-on project (please specify if applicable)	Yes	*Project Proposal (2019)*	Follow-up project

Monitoring data: A monitoring system was in place and very well maintained at the project level. The project team used an excel-based monitoring plan that was centrally steered and managed by one GIZ staff member. All categories necessary for a results-based management system were filled and up to date: baseline, yearly status update, sources for verification, time and frequency of data collection, and person in charge. Baseline data on most indicators originated from previous project results. Other indicators collected baseline data via discussions with regional coordinators. Data on indicator progress came from established surveys or through the input of regional coordinators and partners working towards a specific output. Management monitored data via regular monitoring reports. The evaluation team can confirm that the project team acknowledged the importance of M&E. Moreover, it was very positive to note that the project team regularly applied formative evaluation instruments for internal learning and understanding of their activities. For instance, participants of the academic mobility program provided feedback and a survey to understand the perception of the events and areas to improve. Other activities included a company survey, discussions with CTTEEs to promote the aim of self-sufficiency and an assessment of further needs at partner institutions. KOMPASS procedures were not implemented.

The evaluation team made use of the projects monitoring data. Primary monitoring data collected through the project was further analysed in the evaluation. Data on graduates and their employability status were of

[1] Mandatory for all projects based on 'Quality Assurance in Line (Qsil)'

particular interest for this evaluation. To date, there is no external baseline study based on the received project feedback. Instead, information originated from the previous project regarding the status of the new project indicators. Additionally, data and statistics related to the context of the project operation were continuously collected. The project did not rely very much on national data systems, as there were ample possibilities to collect information from the field and through different project partners.

Semi-structured interviews in person: When interviewing project members, the evaluation team implemented robust approaches to avoid bias and subjectivity created by a poor question design or methods (suggestive question, cultural insensitivity). To reduce the potential bias of information gathered, interviews used the so-called 'think aloud' and paraphrasing techniques2 .

Focus group discussions: Focus group discussions were based on semi-structured discussion guidelines. Discussions included 4-6 people and lasted roughly two hours.

3.2 Evaluation process

The evaluation included an inception phase, a data collection phase and an analysis and reporting phase. The inception phase took place between April and July 2019. This phase included the clarification of roles in the evaluation team, explorative interviews with GIZ's evaluation unit, a workshop with the project team, a desk study and the elaboration of the inception report. The data collection phase was mainly comprised of the field mission in Central Asia from October 14th - 29th, 2019, visiting all four countries. The analysis and reporting phase started at the end of the field mission and the draft report and GIZ received the final version in November 2019. The next section provides detailed information on the evaluation process, beginning with identifying the relevant stakeholders that were involved in this evaluation as well as documentation regarding adherence to evaluation norms, internal processes, as well as knowledge transfer mechanisms.

Stakeholders of the evaluation

The involvement of various stakeholders in the evaluation is crucial for CPEs, as it strongly determines the success of the evaluation and acceptance of the evaluation findings and recommendations. During the inception mission, the evaluation team initiated an activity with key project team members to map crucial project stakeholders and discuss their involvement in the evaluation[3]. Figure 3 shows the project's stakeholder mapping.

[2] Think aloud, inviting participants to redefine the questions asked and question the methodology used to gather their knowledge. The technique does not require additional resources but has proven to create engagement and to ensure the right answering of the question. Paraphrasing, where participants are asked to comment on affirmations, rather than answering to direct questions. It fosters neutral answers, allowing the participants to question concepts and opens the discussion.

[3] The discussions were based on a very elaborated stakeholder map that was compiled at the beginning of the project by the project team.

182 people participated in interviews and discussions during the evaluation mission. **Organisation/ Company/ Target Group**	**Total number of people involved in evaluation**	**Participation in interview**	**Participation in focus group discussion**	**Participation in workshops**	**Participation in survey**
Donors	5 (5 male)	-	-		-
German Embassy Bishkek, GIZ country office					
GIZ	13 (7 male, 6 female)	10 (6M, 4F)	3 (1 M, 2 F)	-	-
GIZ project team					
Project team Bishkek					
Project team Uzbekistan					
Project team Tajikistan					
Project team Kazakhstan					
Project team Kyrgyzstan					
NAWI (Nachhaltige Wirtschaftsentwicklung – bilateral programme)					
Partner organisations (direct target group)	6 (5 male, 1 female)	6 (5 M, 1 F)	-	-	-
Ministry of Education, UZB					
Ministry of Education, TAJ					
Other stakeholders (public actors, other development projects, etc.)	-	-	-	-	-
Civil society and private actors	22 (13 male, 9 female)	6 (3M, 3F)	16 (10M, 6F)	-	-
Institute for further training, UZB					
Chamber of Commerce, UZB					
SHIRI DUSHANBE Milk Company, TAJ					
AMID Company, TAJ					
Chamber of Entrepreneurs 'Ata-meken'					
Barkad Company, Kolos Company					
UZB Partner companies (Tanho Company, UzAg-roLogistics, Mir Delikatesov Company					
Union of Food Producers, Gallanz Bottlers					
Universities and think tanks	66 (33 male, 33 female)	20 (12M,8F)	46 (21M, 25F)	-	-
Tashkent Agrarian University					
Bukhara Institute					
Khujand Polytechnic Institute					
Technology University of Tajikistan / TUT					
Kazakh Agrarian University					
Almaty Technological University					
Almaty Service College					
Almaty Economic College					
Kara-Balta Technical Economic College					
Kyrgyz State Technical University					

Final beneficiaries (indirect target groups)					
Student Interaction at Khujand Polytechnic Institute (Students in food technology)	10 males, 5 females		10 male, 5 females	-	-
Student Interaction at Almaty Technical University (Students in food technology)	4 females		4 females	-	-
Student Interaction at Almaty Service College (Students in food technology)	1 male, 4 females		1 male, 4 females	-	-
Student Interaction at Almaty Economic College (Students in food technology)	5 females		5 females	-	-
Student Interaction at Kara Balta College (Students in food technology)	3 males, 29 females		3 male, 29 females	-	-
Student Interaction at TUT (Students in food technology)	1 male, 3 females		1 male, 3 females	-	-
Student Interaction at ATU (Students in food technology)	5 females		5 females	-	-

TABLE 2: STAKEHOLDERS INCLUDED IN EVALUATION

FIGURE 3: STAKEHOLDER MAPPING PROVIDED BY THE PROJECT TEAM

Elaboration of the different stakeholder groups:

GIZ

Project team members, management as well as regional coordinators from the four project countries were a very important source of information for the evaluation team. Their input informed hypotheses at the beginning of the evaluation and validated findings at the end of the mission. In total, 12 interviews and two workshops were set up during the evaluation. All staff members currently working on the project participated.

Universities and colleges: educational institutions in KAZ, KGZ, TJK, UZB

Universities and technical institutes represent the project's direct target group. The evaluation team covered as many direct partner institutes as possible during the evaluation in each project country. The heterogeneity of institutions was controlled for in the final sampling process, ensuring that different types of universities and colleges were included in the analysis and to understand project outcomes in different settings. As a result, all but two partner institutions (in KGZ and KAZ) were included in the analysis. 61 teachers and 14 head of institutes participated in interviews and discussions during the evaluation.

Partner organisations: Policymakers in KAZ, KGZ, TJK, UZB

Since education ministries in the project countries form the direct institutional counterpart to the project, their participation in the evaluation was of upmost importance. Semi-structured interviews appeared to be the best instrument to integrate ministry representatives asked to participate by the project team to maximize the number of relevant ministry representatives. Two (UZB, TAJ) out of four partner ministries were in. Due to time constraints, the assessment team did not visit the KAZ ministry in Almaty and the KGZ ministry in person.

Civil society and private actors: Private sector of KAZ, KGZ, TJK, UZB

Private sector representatives were included in focus group discussions to share their view and insights on the project. They included representatives from food processing companies and of umbrella organizations, such as the Chamber of Commerce in Uzbekistan and the Chamber of Entrepreneurs in Kazakhstan. Regional coordinators suggested and approached ten companies participating in the project and requested interviews. This convenience sampling approach might not be without bias, as the most active and engaged companies were subsequently interviewed. Managers of the CTTEEs, employed by the project, were interviewed.

Final beneficiaries (indirect target groups): Graduates and students

By joining the project supported courses and learning new technologies, students were direct beneficiaries of the project. Improved teaching methods and new labour-market demanded courses contribute to increased employability of the students. Student interactions were set up at the different institutes by randomly selecting participants from on-going study courses. In total, the evaluation consisted of 70 student interviews. Monitoring data of tracer studies were also analysed.

Norms, standards, internal procedures and limitations

The evaluation team followed UNEG's (United Nationals Evaluation Group) Norms and Standards for Evaluation (2016), the UNEG Ethical Guidelines and the UNEG Code of Conduct (2008) for Evaluation in the United Nations (UN) system. Names, identities, or other personal data pertaining to interviewees and discussants were carefully anonymised using a coding system in the evaluation assessment.

The international and regional consultant built a strong rapport and established an effective and fruitful working relationship throughout the assessment. This allowed them to build upon complementing capacities and experiences. While the international consultant brought in in-depth evaluation knowledge, the sectoral and regional experience of the regional consultant was equally important, especially considering that most interviews and discussions happened in Russian[4]. At the end of each field mission day, the consultants discussed and documented key findings and validated data retrieved from interviews and discussions. Researcher triangulation based on these discussions established a common interpretation between consultants and their analysis of the available data material. The regional consultant drafted interview

[4] The team followed a process of direct translation during the data collection to avoid any potential loss of data.

transcripts at the end of each day while memories and impressions were still vivid. The international consultant supported data analysis and inputs for reporting and proofread and validated the final report. For additional quality assurance, the evaluation team set up a validation workshop with the project team at the end of the mission and a de-briefing session with the GIZ cluster, the regional coordinator and the relevant BMZ representative.

The evaluation identifies two major limitations in its implementation. Most importantly, significant language barriers often impeded in-depth discussions with some of the stakeholders. While the ad-hoc translation worked for the majority of the interviews, time constraints caused by translating sometimes led to missing evaluation questions and rushed answers. To mitigate this, the evaluation team frequently discussed which questions/hypotheses needed further verification and placed additional focus on these questions during subsequent interviews. A second limitation is the reliability of some of the monitoring data as the interviewee sample size for some indicators was very small.

4 Assessment of the project according to OECD/DAC criteria

4.1 Long-term results of predecessor projects

Evaluation basis, design and methods for assessing long-term results of the previous projects

The fact that the project followed two predecessor projects made it a very interesting subject for evaluation, as it provides the opportunity to assess the impacts and sustainability of previously implemented measures working towards a similar/same goal. The two previous projects in question are: 'Professional education and vocational training in Central Asia' I (2010 – 2013) and II (11/2013 – 10/2016; PN: 2013.2220.5; project volume EUR 8,00,000).

Evaluation basis: To examine the impact and sustainability of the previous projects, the evaluation team focused on understanding whether the intended impacts of the predecessor projects had materialized. To address this explicitly, the evaluation matrix shows questions regarding the impact and sustainability of the predecessor projects. However, due to the lack of a baseline analysis, there was no opportunity to implement a more rigorous ex-post or (quasi)experimental design to understand the attributable impact of predecessor projects. Therefore, previous outcome indicators not assessed in detail during the evaluation mission due to the estimated time constraints caused by interview translations.

Evaluation design: To accommodate the unique context in which the project took place, the evaluation team applied a retrospective, mixed-method evaluation design that predominantly relies on quantitative elements. Triangulation methods were implemented using project documents, such as the evaluation from 2016 and the revision report.

Evaluation methods: Targeted semi-structured interviews and discussions with key stakeholders that were involved, influenced, or observed the progress of the project(s) between 2010 and 2019.

Analysis and assessment regarding long-term results of the predecessor project

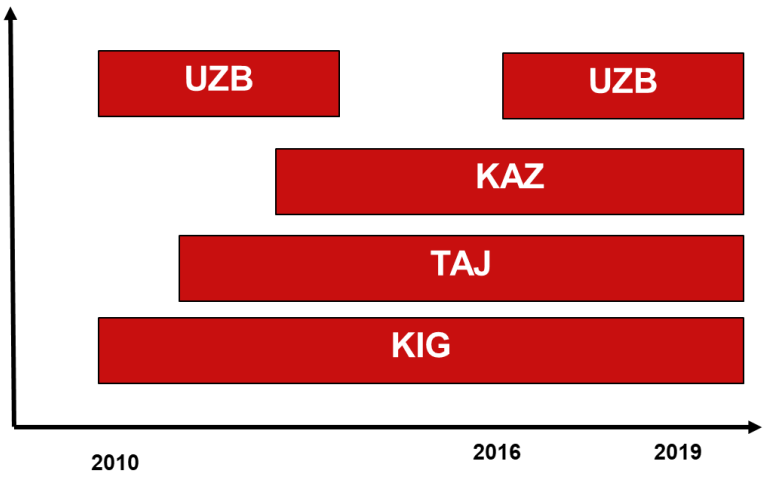


FIGURE 4: CENTRAL ASIAN COUNTRIES INVOLVED IN PROJECT 2010 - 2019

Assessing the impact and sustainability of the predecessor projects was crucial to this evaluation for the following reasons: (i) the project and its predecessors build upon each other and their previous achievements and (ii) stakeholders often perceive the three different projects as one long project when considering results that occurred before 2016. Another important factor to consider in the assessment is that countries joined the

project at different times and that UZB left the project for several years[5] (figure 4). This is particularly important to note when making comparisons between countries or analysing the impact and sustainability of measures taken in previous phases of the project.

One of the core achievements of the project was the establishment of working groups that successfully developed curricula for education programmes in food technology, particularly the BSc. and MSc. Programmes (*Int_25, FGD_14*). The programmes were not only regionally comparable, while still fitting to the national education frameworks, but also were implemented and approved on time due to high ownership of the participants involved. The methodological approach of first developing a high-quality reference framework at a regional level that also complied with international standards and then contextualizing the drafted curricula to the different national systems proved effective in achieving the intended goals (*FGD_7, Int_4, Int_12*). The education programmes conceptualized in the preceeding projects are currently in use in KAZ, KGZ and in one institution in TAJ.

A second long-term achievement of the previous projects was the sustainable use and implementation of the infrastructure, materials and educator training supplied to the project partner institutions. During interviews, teachers and students confirmed the use of the provided equipment and new training methods that accompanied the supply of new equipment during lectures (*FGD_6, FGD_5, Stud_4*).

The assessment shows that the withdrawal by UZB significantly affected the impact and sustainability of the measures implemented in the previous projects. The BSc. in Food Technology could not be implemented, despite the fact that representatives took part in its development during the first project. At present, UZB and to some extent TAJ, still lag in their implementation of the respective study programmes. This has impacts on the project, as well as future projects, as demonstrated in the following quote:

> 'It is necessary to bring UZB to the same level than other countries, if not we will only be in an observing position' – INT_19

In summary, the evaluation team found that valuable and potentially long-lasting lessons arose because of the processes set up during the previous projects, such as the improvement of teaching methods and the implementation of new curricula at the pilot institutes. The analysis demonstrates that changes require time and continuous engagement of project partners and that the temporary withdrawal of project partners, as in the case of UZB, can put the overall results of the project and sustainability of measures taken at risk.

4.2 Relevance

Basis of evaluation and design for assessing relevance

The relevance criteria examine the extent that the objectives of a project related intervention are consistent with beneficiaries' requirements, country need and global priorities. Project objective assessments ensure that the criteria are consistent with the key strategic reference frameworks, the priorities of the target groups and the policies of the partner country and the commissioning party. In contrast to past practices, the analysis of the design and the logic of the results (TOC) of the underlying project is considered.

Evaluation basis: As a starting point in assessing the project's relevance, the intended results and impact level were compared with relevant strategic reference frameworks– e.g. the priorities of the BMZ as well as with national strategies. The project's focus areas and activities were contrasted with strategic reference documents to analyse the needs and potential benefits of the project's target group, as well as target groups' perceptions and expectations (evaluation dimension 2) of the project. To assess the adequateness of the project design (evaluation dimension 3), the project's results model was reconstructed. To understand changes made during

[5] UZB left the project in 2015 due to disagreements with the terms of project implementation. The UZB Ministry wanted to give more direct funding to equip regional institutions without budget checks. This mode of support is not in line with GIZ policy/vision. As a result, the UZB Ministry of Foreign Investments officially issued a letter of rejection to the project, terminating all activities. Thanks to continuous efforts by the project team and regular consultations and negotiations with decision-makers, the project was re-launched in UZB in 2018.

the implementation of the project (evaluation dimension 4), the modification offer, progress reports and other supporting documents were analysed and discussed with relevant project team members and stakeholders.

Evaluation design and methods: As indicated in the evaluation matrix (annex 1), the relevance criteria were mainly assessed through the analyses of secondary project data, which underwent qualitative content analysis. Additional triangulation occurred using strategic documents and primary data from stakeholders. Additionally, interviews with the donor organization and GIZ management provided complementary information to bolster the analysis. The updated results model serves as a solid base to understand the adequateness of the project design, further verified during interviews and discussions with key stakeholders. The data and evidence gathered in the assessment were determined strong enough for the dimensions of the relevance criteria.

Analysis and assessment of relevance

Evaluation Dimension 1: The project concept is in line with the relevant strategic reference frameworks.

The relevant strategic reference frameworks for each of the four countries and relevant sub-regional strategies were examined. In KGZ, two strategies proved to be relevant for the project. The National Development Strategy (2013) targets the education sector to make Kyrgyz graduates more competitive internationally and the Education Development Strategy (2014) seeks to improve general national education levels by providing training to help students receive quality vocational and higher education and seek occupations that match their talents. The country has promoted the participation of employers and seeks their involvement in competence-based training development. The introduction of the credit system in education has also contributed to creating conditions that have resulted in increased academic freedom. To date, national policies do not explicitly address improvements to the training teachers receive or provide any additional educational opportunities for teachers, hindering further progress in the education sector.

KAZ has a national initiative and development strategy that is relevant to the project. The ‘Kazakhstan 2050’ (2018) plan, has the goal of making KAZ one of the 30 most developed countries in the world. One of the key factors to ensure the success of their initiative is the positioning of the education sector as one of the seven national priorities to be intensively developed. This development includes strengthening the autonomy of educational institutions and matching the requirements of the labour market by developing a curriculum with the participation of potential employers and the broader private sector. The Education Development Strategy 2020 (2010) is a working document that supports the 2050 strategy and aims to strengthen independent accreditations of educational institutions and increase employment level of graduates by up to 80% at all levels of education nationally.

TAJ has two development strategies that share interests with the project. First, is the National Development Strategy ‘2030 Agenda for Sustainable Development’ (NDS-2030, 2015). This strategy explicitly addresses the development of human capital as a comprehensive and intersectoral priority and addresses issues related to education, health, social protection and gender equality. The Education Development Strategy 2020 (2012) identifies additional priorities related to the project such as capacity building for teachers and developing training programs oriented to the labour market and enhanced practical education.

UZB’s education system is regulated by a national law on education and a special law on national training programs, which includes both vocational education and higher education programmes. In September 2019, a presidential decree called for the restructuring of the educational system. In concrete terms, decree calls for the function of each level of education within the country to adhere to the International Standard Classifier of Education framework (ISCED, maintained by UNESCO). This structure contributes to the further development and implementation of the National Qualification Framework. The decree also sets clear deadlines for approving national occupational standards. Additionally, the government of UZB has set itself an ambitious development agenda known as the Vision 2030 Strategy. Under the strategy, the government intends to accelerate economic growth in order to become an upper-middle-income country. The strategy relies heavily on the education sector in achieving the goals of the strategy.

The project is in line with the objectives of the BMZ position paper 'Vocational training in development cooperation' (2012), the BMZ education strategy 'Equitable opportunities for high-quality education' (2015) and the BMZ position paper 'BMZ's new Asia policy' (2015). Additionally, the project corresponds to the objectives of the EU strategy 'EU and Central Asia - a partnership for the future' (2007) and its amendment for the period up to 2020. As a stand-alone TC-measure, the project, as well as its predecessors, did not contribute to any DC program. Other main actors (USAID, ADB, as well as the EC-Delegation and ETF) are also supporting project countries in educational initiatives in parallel. So far, their activities have been complementary to the project's efforts, but overlaps could arise in the future. As articulated in the project concept (*repeated offer 2016)*, and confirmed by the project team and partners, the project is oriented towards SDG 4 on quality education and SDG 8 on decent work and economic growth. According to the perspectives of different stakeholders, the programme also contributes slightly to SDG 2 on ending hunger and on SDG 1 on poverty evaluation (*Int_4 and FGD_7*).

Evaluation Dimension 1 under 'relevance' receives 30/30 points.

FIGURE 5: PROJECT CONTRIBUTION TO THE SUSTAINABLE DEVELOPMENT GOALS

Evaluation Dimension 2: Suitability of the project concept to match core problems/needs of the target group(s)

The evaluation team highlighted the needs and the suitability of the project concept for the intended main target groups.

Universities and colleges: Teachers and trainers (direct target group) who lack capacities to promote a practically oriented education in food processing *(repeated offer 2016; FGD_12, FGD_13, FGD_14)*

Partner organisations and private actors: Regional dialogue participants from the public and private sector who require support in implementing regional education programs and the harmonization of curricula *(repeated offer 2016, Int_20, Int_17)*

Final beneficiaries: Study program graduates (indirect target group) whose core need centres around receiving a quality education that provides them with decent work opportunities in the food processing sector *(repeated offer 2016, Stud_2, Stud_3)*

Departmental leaders and teachers within educational institutions in food technology across all countries involved in the project were unanimous in considering the project to be institutionally (concerning organizational requirements) and personally (concerning individual needs) relevant when interviewed (*FGD_12, FGD_6, FGD_13, FGD_14*).

Institutional level needs differed across each of the countries and institutions involved, ranging from basic requirements, such as infrastructure (FGD_10), to the need for more advanced and internationally accredited

education programmes, such as Master and PhD programmes (Int_25). The project adopted a modular approach in supporting pilot institutions by providing infrastructure, teachers' training and support in content and curriculum development. This approach ensured that new infrastructure and equipment provided as part of the program corresponds to the content developed in the curricula (*FGD_7*). The allocation of budgets given to the institutions differed according to their respective needs to ensure cost-effectiveness. This approach allowed UZB to receive more infrastructure support, while in KAZ the provision of equipment was very limited due to the already substantial support allocated to public institutions by the government (*Int_10*). A demand-based approach instead of one size fits it all solutions was perceived positively by most partners involved (FGD_2, FGD_5). Nonetheless, there is room for improvement to maximize the utilization of equipment or products provided. Evidence from two institutes showed that the equipment given did not correspond fully to the needs of the institute (*Int_12, FGD_12 with educational institutes*). Time constraints and challenges in delivering the equipment led to a mismatch of the needs of the institute. In this case, teachers were not included the selection process leading to top-down decision making that did not fit the needs of the institute. Because of this error and delays in starting the BSc. programme, part of the purchased equipment remains stored in a back office and not in use (Int_13). At another institute, the request was made for the procurement of more scientific equipment to enhance the universities' competitiveness (FGD_6, FGD_12), but budget constraints blocked this type of large-scale purchase.

The predecessor projects established an approach to curricula development used by many of the institutions, which proved useful in achieving regionally harmonized curricula that considered the national requirements of the respective institutions. This approach required regional working groups to draft and develop curriculum collaboratively while complying with international standards but reflecting regional priorities. This first draft was then adopted by representatives from the different countries to further contextualize and operationalize it according to regional contexts and institutions (*Int_4, FGD_5, Int_25*).

The project achieved very satisfactory results in terms of relevance at the individual level. Teachers confirmed the relevance of the project for their personal development across the FGDs established during the project (*FGD_6, FGD_14, Int_25, FGD_5*). Subject-specific teacher training does not exist in many of the project countries and the project offered educators a chance to enhance their skills and knowledge. Similarly, students confirmed the relevance of the project for their career by taking part in academic mobility programmes or being exposed to practically oriented training (*Stud_3, Stud_1, Stud_7*).

Gender based gaps in both needs and participation in project activities yielded interesting but inconclusive results. The project targets professions in food technology, which corresponds to careers in baking, milk and dairy processing, sausage processing and beer brewing. Marketing of these educational and career targeted both men and women. However, in UZB and TAJ many students mostly male, and in KAZ and KGZ students were predominantly female. This divide is likely due to societal factors, but the evaluation team could not determine more information in this regard.

The project targeted inclusion of vulnerable groups, such as poor or disadvantaged populations and ethnic minorities (*repeated offer 2016*). Including institutions in urban areas, country capitals as well as semi-rural areas to serve as pilot institutions ensured more inclusive project planning (such as Kara-Balta in KGZ and Khujand in TAJ). This approach led to increased diversity in the target students. While the selection criteria were not completely transparent in all cases, the project team and the respective in country political partner always collaboratively selected the institution. Additionally, by involving colleges and vocational schools, the project had an increased impact on young people from lower-income segments, who are generally unable to pursue HE (*Int_24, Int_11*).

Evaluation Dimension 2 under 'relevance' receives 25/30 points.

Evaluation Dimension 3: The project concept is adequately designed to achieve the chosen project objective

An assessment of the project's results model showed a need for revision. The model was limited to the identification of the four target outputs and did not include any additional expected outputs or outcomes. During

a pre-assessment participatory exercise, team members redesigned the results model in order to represent the project concept holistically. To achieve this, the project objective was defined in more detail and was restructured using a multi-dimensional approach, with the overarching goal being to improve quality of education in food technology (*Int_4, FGD_7*) at micro-, meso-, and macro-levels. Originally, neither the objective nor the corresponding indicators specified to what extent conditions require improvement because of the project. This omission leaves room for interpretation. In general, however, project outputs are specific and achievable and hypotheses between outputs and outcomes are plausible and coherent. Assumptions made between activities and outputs vary in terms of their plausibility. While some are very clear (output A), the different activities on academic mobility and other exchange events do not connect to the four given outputs. A key strength of the concept was that the project specifically fit local needs while addressing regional priorities. The chosen approach to work directly with educational institutions brought forward changes at micro and meso level. At the same time, ministries integrated through regional dialogues establishing fruitful working relationships to the best extent possible given the difficult political context.

Nevertheless, both the project team and evaluation team found the project design extremely complex and the scope of each output to be very broad. For instance, output D focuses on improving the collaboration between educational institutions and the private sector and entails a broad range of complex and time and cost demanding activities, above all the establishment of the CTTEEs (*FGD_7*). Resources allocated both in terms of staff and budget were often insufficient to achieve the goals within each output area set.

Evaluation Dimension 3 under 'relevance' receives 15/20 points.

Evaluation Dimension 4: The project concept was adapted to changes in line with requirements and re-adapted where applicable.

The project did not experience any crucial changes except the withdrawal and return of UZB within the project period (*Int_4, progress reports*). After receiving an official letter of withdrawal in 2016, the project team consistently negotiated with decision-makers in UZB to re-launch the project in the country. In 2018, UZB officially rejoined the project (*Int_9*). Thus, project management and the project concept were slightly adapted to suit this reality (*Progress report 2018*). The target values of indicators changed to include two additional partners from UZB. Activities had to be adapted to consider the re-integration of UZB and additional workshops were set up to intensify the exchange between the other project countries and UZB. As shown later in the effectiveness chapter, indicators for UZB did not achieve the same levels as the other project countries. Considering that only one year of project implementation was left upon UZB's rejoining, it is questionable whether the adaptation of project indicators in the modification offer was adequate at that point in time. Retrospectively, the project team and partners found it to be unrealistic to assign indicators for the selected institutions in UZB with less than one year of project timeline left.

A second change to the project occurred when the Ministry in TAJ (and UZB) did not select pilot colleges until the end of the project. While this was a political decision, the evaluation team did not see any adaptative measures to conduct project activities at the local level by the project team. Lastly, the transfer from the CTTEE in TAJ from the Isfara College to the Technological University of Tajikistan (TUT) entailed a potential loss of knowledge and experience built up at the previous location. Activities at the CTTEE at TUT had to start from scratch and knowledge transfer between key personnel was limited.

Thirdly, the decision to shorten the project period and budget influenced the completion of some of the activities, especially the curricula development and the organisation of an additional regional dialogue (*FGD_7*). Interviewees did not identify any other significant changes to the project concept.

Evaluation Dimension 4 under 'relevance' receives 15/20 points.

Overall assessment of relevance

The evaluation team found that the project builds upon key strategies defined by the Central Asian partner governments jointly with BMZ and EU entities. The evaluation team thus awards 30/30 points in the first evaluation dimension of the relevance criteria. The project concept also satisfactorily addresses the core needs

of the immediate target groups (teachers and regional dialogue participants) with some room for improvement in terms of promoting target group representatives in planning. 25/30 points are awarded in the second dimension of the relevance criteria. The evaluation concludes that the multi-level project design is adequate to achieve the chosen project objective but the complexity of the project burdens its implementation. Therefore, 15/20 points are awarded to the project design. Lastly, the project operationally responded well to changes in the context, above all to the dynamics caused by the withdrawal and return of UZB, but, in retrospect, indicator adaptations were determined to be unrealistic given the amount of time remaining in the project. Thus, the assessment team rates the project 15 out of 20 points for the dimension on adapting to change. Combined, project relevance dimensions are awarded 85/100 points: *Successful.*

Criterion	Assessment dimension	Score & Rating
Relevance	The project concept[6] is in line with the relevant strategic reference frameworks.	*30 out of 30 points*
	The project concept matches the needs of the target group(s).	*25 out of 30 points*
	The project concept is adequately designed to achieve the chosen project objective.	*15 out of 20 points*
	The project concept* was adapted to changes in line with requirements and re-adapted where applicable.	*15 out of 20 points*
Overall Score and Rating: SUCCESSFUL		*Score: 85 out of 100 points* *Rating: 6-level-scale*

4.3 Effectiveness

To measure the 'effectiveness' criteria, the evaluation analysed whether the project achieved its desired objective according to the agreed-upon indicators of success (*evaluation dimension 1*) and the degree to which project measures have contributed to its objectives based on pre-defined indicators (*evaluation dimension 2*). The basis of the latter assessment is a contribution analysis, which takes an in-depth look at three key elements of the project. Lastly, the evaluation of the effectiveness of the project examined positive, negative or unintended outcomes and results (*evaluation dimension 3*).

During the inception mission and as a preparatory exercise for the indicator assessment, the evaluation team conducted a one-day workshop with the GIZ project team and conducted a joint reflection of the project indicators. The exercise revealed that the project team was not entirely satisfied with project indicators. It was determined that the indicators were conceptualized using inputs from an evaluation study in 2016, finalized by the GIZ sectoral unit. The assessment showed unrealistic planning of some of the indicators during the

[6] The 'project concept' encompasses project objective and theory of change (ToC = GIZ results model = graphic illustration and narrative results hypotheses) with outputs, activities, instruments and results hypotheses as well as the implementation strategy (e.g. methodological approach, CD-strategy, results hypotheses).

duration of the project. It was further revealed that a few indicators provided in the results matrix do not adhere to the so-called SMART-principles, where the 'S' (=specific) principle was often neglected. Additionally, some indicators could not be achieved realistically during the timeframe of the project due to factors that are out of control for the project (Uzbekistan's political climate). Table 3 summarizes the SMART assessment of module indicators.

TABLE 3: ASSESSMENT OF MODULE INDICATORS

Project objective indicator according to the offer / Original indicator	Assessment according to SMART criteria/Assessment	Adapted project objective indicator / Specification remarks
MOI1. Four regionally agreed-upon study programmes (B.Sc.; M.Sc.; M.Ed.; PhD.) on the training of teaching and managerial staff of universities specializing in food technology, in compliance with international standards, are incorporated in the national education systems. *Baseline value: 2* *Target value: 4* *Source: Project monitoring plan*	The indicator requires further specification: If this means that in each country, four new study programmes are implemented; this would mean that in total 16 programmes are implemented. This high number is unrealistic, especially when considering that UZB left and rejoined the project late. The requirement of incorporating the programmes into the national education system is not clearly defined. The evaluation team would maintain the indicator as is but would explicitly define 'four regionally agreed-upon study programmes' in a more achievable and realistic way.	Four regionally agreed study programmes (B.Sc.; M.Sc.; M.Ed.; PhD.) on the training of teaching and managerial staff of the universities specializing in food technology, in compliance with international standards, are incorporated in the national education systems. Remark: Four regionally agreed study programmes can also comprise a programme that is 'only' integrated in e.g. two countries, but not in all four.
MOI2. Four tested professional education programmes on training and professional development of food technology specialists as well as training of production masters, in compliance with international standards, are incorporated in the national education systems of all partner states (four programmes in TJK, KAZ, KGZ, three in UZ). *Baseline value: 1* *Target value: 4* *Project monitoring plan*	Similarly, to MOI1, it remains unclear what the integration of college programmes at the national education system means and requires. Furthermore, the core of the indicator – 'tested professional education programmes' - is not clearly defined.	It was decided to not adapt this indicator and instead have the project team verify what type of intended education programmes were pursued and then examine their actual implementation and integration.
MOI3. Six months after graduation, 80% of the graduates (50% female) of reformed study programmes are employed according to their professional qualifications or continue their education in their respective major. *Base value: 75% (50%)* *Target value: 80% (50%)* *Project monitoring plan*	Fulfils SMART criteria but is inherently connected to advances of MOI1; employment can only be measured once study programmes are implemented. Therefore, this indicator may be more beneficial at the impact level. Regardless, the indicator is measurable with the help of university/college tracer studies.	In general, no adaptation is necessary, however, it should be noted that employment data could only be retrieved for a small number of graduates from KGZ and KAZ, where the BSc. programme had been successfully implemented in the predecessor project.
MOI4. 70% of 90 partner companies confirm improved competencies of the graduates of reformed study programmes (3 and above on a scale of 1-5). *Base value: -* *Target value: 70% of 90 partner companies* *Source: Project monitoring plan*	Like MOI3, this indicator may be better suited at the impact level. The indicator does not match with the project's activities in terms of company engagement. While the project worked closely with numerous company representatives and trained their employees, only a fraction of companies went on to hire graduates as interns or employees. This total number may be substantially less than 90.	70% of partner companies confirm improved competencies from graduates of reformed study programmes (3 and above on a scale of 1-5). Remark: The evaluation team could only retrieve data on a small sample of partner companies. 28% of partner companies participated in monitoring surveys and 18% of companies gave qualitative feedback during the data collection process.

Evaluation basis: The evaluation team began their assessment by determining if the project objectives had been achieved based on the objective indicators and if additional indicators are needed to reflect the project objective adequately. This required comparing the status of the project with the project-outcome indicator targets. A second step used a contribution analysis to assess to what extent the activities and achieved results of the project contributed to achieving the project objective. Here, the analysis selects three hypotheses from the results model, one of output A and two of output B. Following Mayne (2011*)*, a contribution analysis consists of a six-step approach. As mentioned in section 3.2, the validated results-model including risks and assumptions guided the analysis (Step 1). The project management identified three causal links from objective to output during a participatory exercise (Step 2)[7]. They also considered selection criteria for the hypotheses in addition to the feasibility of implementing contribution analyses in the given period. As a third step, the evaluation assessed unintended changes that occurred because of the project under the effectiveness criteria. Unintended changes include aspects of the project that have influenced the attitude, the subjective norms or the perceived behavioural control of national actors. During the inception mission, the team identified several unintended results of the project and included them in the results model with other identified unintended positive or negative results.

Evaluation design and methods: To achieve conclusions about the effectiveness and the achievement of indicators, the evaluation team analysed both primary and secondary data sources. A qualitative content analysis reviewed key project documents and relevant external documents for any information regarding the project indicators. The consultants then collected and triangulated perceptions from key stakeholders, including the project team management and team members, as well as key partners and other stakeholders. Evidence on influencing factors and conflicting explanations of project effectiveness were collected (Step 3). The evaluation team applied a mixed-method approach to their analysis, making use of a variety of data sources and data collection and analysis methods. The basis of the qualitative data collection instruments is semi-structured interviews of project partners at the ministry and institute level, as well as FGDs with both teachers and students. Elements of the most significant change technique were then integrated into the resulting discussion and actors were asked about important and unintended changes that they perceived. Eventually, using these data sources, a contribution story was compiled (Step 4). Step 5 entailed collecting further evidence for alternative hypotheses. A validation workshop at the end of the data collection with the project team as well as with the GIZ regional coordinator, country director and BMZ representative supporting the validation of findings. Eventually, the contribution story was finalized (step 6).

Analysis and assessment regarding effectiveness

Evaluation Dimension 1: The project achieves the objective on time in accordance with the project objective indicators agreed upon in the contract

The following section provides an overview of the achievement of the project's objective along with the indicators of the results matrix.

Indicator 1 at module objective level: 'Four regionally agreed study programmes on training of teaching and managerial staff of the universities specializing in food technology, in compliance with international standards, are incorporated in the national education systems.' [Baseline value: 2, target value: 4, source: Project monitoring plan]

[7] However, the evaluation team remains open to select other pathways in case the GIZ corporate unit has doubts or the project team changes their preferences.

The first indicator at module objective level concerns the national integration of regionally developed curricula in HE. Advances on this indicator are mainly attributed to the two preceding projects as well. As previously stated in the analysis, the BSc. and MSc. programmes had already been developed and partially implemented in the previous projects. The evaluation confirmed the implementation of the BSc. at selected pilot institutions

FIGURE 6: OVERVIEW OF STUDY PROGRAMMES IN FOOD TECHNOLOGY

Overview of study programmes implemented

The table below shows whether the desired study programmes had been implemented in the partner countries of the project.

Programme / Country	KGZ	KAZ	TJK	UZB
B.Sc.	Yes	Yes	Yes	In progress
M.Sc.	Yes	Yes	Yes	-
M.Ed.	-	In progress	-	-
Ph.D.	In progress	-	-	-

in KGZ and KAZ at the end of the previous project. Technical University of Tajikistan (TUT) and the Khujand Polytechnic Institute implemented approximately 80% of ACQUIN's reference curricula. In UZB, the BSc. curricula were submitted to the MoE for revision and approval, and ministry representatives confirmed their support in achieving national accreditation in the near future (Int_20). KGZ and KAZ implemented the MSc. curricula at the end of the previous project. TAJ was supposed to finalise the the MSc. during this project with the help of the external consultants, but progress could not be completed satisfactorily before the end of the project (Int_16). A key focus of this project was the implementation of the M.Ed. and PhD programme. The corresponding work packages were outsourced to external consultants, who set up bilateral meetings and workshops with institutions. However, the proposed work plan did not yield satisfactory outcomes. As a result, at the end of the project neither the M.Ed. at the Almaty Technological University nor the PhD programme at the Kyrgyz State Technical University received accreditation (Int_25, Int_21 with education institutes). The integration of the project related study programmes to their respective national education systems did not occur. Ultimately, the objective indicator achieved roughly 50% of its intended goal and any significant progress was attributed to previous projects. Changing previously established methods for designing and implementing curricula contributed delaying further progress.

Indicator 2 at module objective level: Four tested professional education programmes on training and professional development of food technology specialists as well as training of production masters, in compliance with international standards, are incorporated in the national education systems of all partner states. [Baseline value: 1, target value: 4, source: project monitoring plan]

The second indicator concerns the incorporation of training programmes into national education systems; however, the vague formulation of the term 'indicator' makes assessing outcomes unclear. In KGZ, the project collaborated with one college, and in KAZ two colleges successfully revised their curriculum in food technology.

Overview of training and education programmes implemented at college

The table below shows the type of training and education programmes implemented at college level.

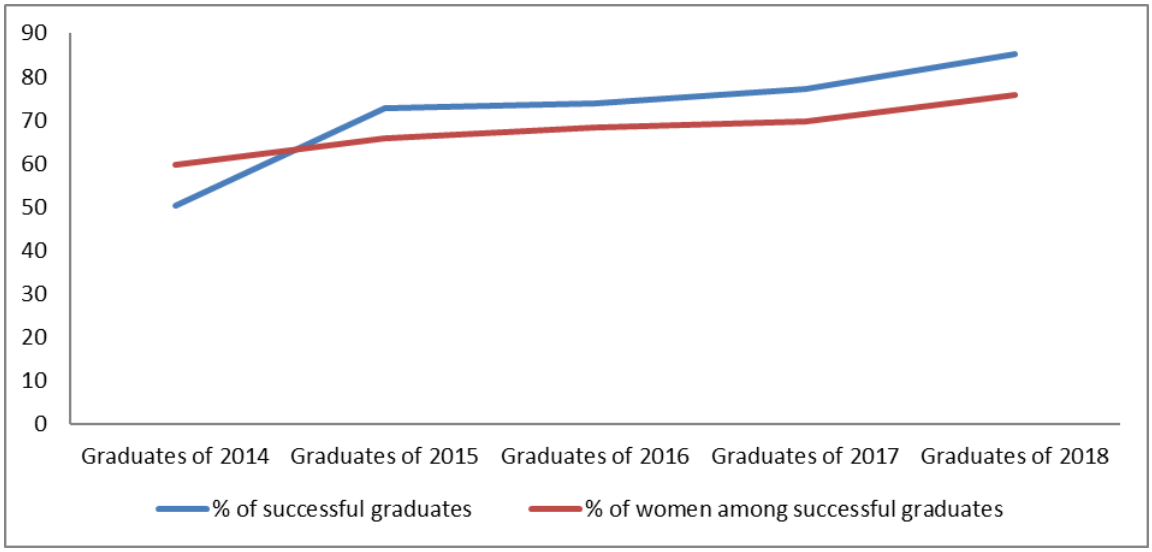
Programme / Country	**KGZ**	**KAZ**	**TJK**	**UZB**
College Curriculum	Yes	Yes	No	No
Production Master	Yes	Yes	Yes	Yes
Short-Term Courses on Agrologistics	Yes	Yes	Yes	Yes
Short-Term Courses on Food Security (HACCP)	Yes	Yes	In progress	In progress

In TAJ and UZB no partner institutions were selected by their representative political partner, which substantially limited all planned activities (Int_9, Int_15 with project team). A high number of training sessions and workshops throughout the project trained production masters in companies and conduct subject matter based short-term courses. While these activities were considered very effective and useful by participants (FGD_14, FGD_6 with educational institutes), they were structured as stand-alone capacity-building measures and can, therefore, only be partially institutionalized. Their incorporation in the national education system, which is the requirement outlined in the indicator, is missing. Consequently, this indicator achieved 50% of its outlined target.

Indicator 3 at module objective level: 'Six months after graduation, 80% of the graduates (50% female) of reformed study programmes are employed according to their professional qualifications or continue their education in the respective major. [Baseline value: 75% (50%), target value: 80% (50%), source: project monitoring plan]

The basis of assessing indicator 3 is data from tracer studies, implemented by the education institutions and collected by the project's M&E officer. Data on graduates in food technology programmes in KGZ, KAZ and TAJ from 2014-2018 were analysed and showed that 85.14% of the graduates achieved employment, out of which 75.86% were female. The monitoring data does not show whether graduates found employment in their occupational field, nor does the qualitative data retrieved from additional interviews and discussions. During students' interactions at both HE institutions and colleges, enrolled students showed high levels of confidence when inquiring about finding a job in their field or continuing their education. Most college students expressed the desire to pursue HE after finishing school in order to get more advanced jobs in the future (*Stud_3, Stud_7*). Many colleges had agreements with universities to place their students directly in the second year of the BSc. courses, facilitating seamless enrolment for college students seeking to continue with further education programmes *(FGD_13, Int_24*). Teachers and head of departments confirmed high post-graduation employment rates due to the urgent need for skilled graduates in the sector (*Int_16 with education institutions*). Considering that findings from quantitative and qualitative data, yield similar conclusions, the indicator is fully achieved.

FIGURE 8: PERCENTAGE OF EMPLOYED GRADUATES IN FOOD TECHNOLOGY STUDY PROGRAMMES



Indicator 4 at module objective level: '70% of 90 partner companies confirm improved competencies of the graduates of reformed study programmes (3 and above on a scale of 1-5). [Base value: - , target value: 70% of 90 partner companies, source: Project monitoring plan.]

The quantitative assessment of indicator 4 was limited for several reasons. First, the project did not collaborate with 90 companies as originally stated in the objective indicator, focusing instead on less but more comprehensive partnerships (*Int_4*). In total, the project collaborated with 59 partner companies in three countries (*Monitoring report 2019*). Second, monitoring data used to assess this indicator was collected via individual interviews with 17 company representatives following a purposive sampling method instead of a representative online survey. During the interviews, M&E officers evaluated the respondents' personal and social competences as well as their professional, theoretical and practical skills. The results of the monitoring data show that 97% of companies confirmed improved competences of the graduates of reformed study programmes in all four skill levels. Considering the data collection limitations, the evaluation team collected additional qualitative data from representatives of nine additional companies during the field visit, based on suggestions by the regional coordinators. The additional interviews revealed that respondents perceived an improvement in the teaching, which they attributed to an increase in practical training sessions in more adequately equipped laboratories (*FGD_8, Int_8 with private actors*). The respondents found the reduction of general subjects in the new curricula positive, as it allows for more training on the technical subjects related to food technology (Int_8, FGD_8). Nevertheless, interviewees saw room for improvement in further enhancing practical and soft skills of students during their training (*Int_2, Int_8*), and think students need more intensive on the job to become familiarised with real-world working environments and procedures. Despite the limitations in the assessment, the evaluation team considers indicator 4 achieved.

Evaluation Dimension 1 under 'effectiveness' receives 20/40 points.

Evaluation dimension 2: The activities and outputs of the project contributed substantially to the project objective achievement (outcome).

Evaluation dimension two considers the achievements of the different outputs corresponding to their respective indicators. Additionally, the contribution analysis analysed three underlying hypotheses to illustrate how different outputs contributed to project outcomes.

- Hypothesis 1 O1 – MO1: The adoption of recommendations at the annual regional dialogue forums contributed to improvements in quality of education and teaching in food processing.
- Hypothesis 2 O2 – O9: The implementation of harmonized curricula has led to intensified regional cooperation between partner institutions.
- Hypothesis 3 O8 – MO1: Academic mobility programmes contributed to improved quality in education.

Output A: Recommendations are passed at the annual regional dialogue forums for regional harmonization of training and education for specialists and management in the field of food technology and vocational training				
	Baseline Value	**Target value**	**Final value**	**Explanation**
A1. The Regional Steering Committee (RC) has become fully operational.				

Indicators corresponding to output A were fully achieved. The regional steering committee was successfully established and produced two recommendations per year (*FGD_7, FGD 8*). In 2019, no regional steering committee meeting took place due to the shortened project period. RC contributed to improvements in the quality of education and teaching in food processing (MO1). The evaluation team verified the assumptions that: (i) bi-annual regional dialogue forums and study tours adequately resulted in recommendations and decision-making at the regional level and (ii) that event participants show continuity, motivation and ownership, and have necessary decision-making power to bring forward changes in their regions.

Evidence that supports the confirmation of the hypotheses include:

- **Selection of relevant recommendations:** The recommendations that were endorsed during the regional dialogues were found to be of high importance and able to solve key challenges in the food processing education system. The recommendations reflected strengthening academic mobility and enhancing

participation by the private sector through in-company training, directly contributing to improving education and training programmes of the countries involved.

- **Creation of an academic network:** Head of departments and teachers from all countries valued the formation of an actor network that focuses on pursuing similar goals. These 'academic' networks are of relevance for both the institutes and the individuals involved, as new opportunities for collaboration emerged (*FGD_2*), resulting in the medium to long term peer to peer learning and skill acquisition.
- **Regional learning processes:** Committee members, particularly in UZB and TAJ, found it useful to learn from other countries' experiences to avoid costly mistakes (*Int_20, Int_17*). Therefore, the regional platforms contributed to expediting food processing education and training in a timely and cost-effective manner.
- **Individual learning:** Participants reported high levels learning because of improved curricula development and practically oriented learning (*FGD_12, FGD_6, FGD_14 with educational institutes*), enabling them to improve on their individual level of education and training.
- **Strengthening of national relationships:** Regional dialogues and working groups also led to an intensification of collaboration between educational institutes. For instance, graduates from Khujand can now pursue a PhD at TUT. Tashkent University and the Bhukara Institute also showed interest in working closely

  together to implement the planned B.Sc curriculum (*Int_12, Int_16 with educational institutes*). These outcomes demonstrate that regional dialogue platforms resulted in improved synergies between institutes, benefiting the institutes involved.
- **Broadening of horizons:** Regional dialogues, in combination with study tours, broadened horizons for many participants, many of whom applied what they learned to their home institutions:

  'The study tour was a great moment; we could see synergies between Colleges and HE. I was shocked and surprised by all the advances. I got home convinced that I need to promote the learnings made.' – FGD_14

There were also elements identified by the evaluation that may hinder contributions from output A to the project objective.

- **Discontinuity of participants:** It was not always possible to ensure continuity in project participants. This setback led to inefficient progress in implementing dialogue recommendations. The introduction of new participants resulted in lost time due to a continuous onboarding process. Trust-building and communication synergies were also jeopardized due to discontinuity of participants.
- **Motivation for follow-up tasks:** The success of implementing changes because of the dialogue sessions relies on participants promoting changes to their respective home countries and institutions. Without follow up promotion by project participants, dialogue sessions do not result in long-term changes.
- **Shortened project timeline:** As mentioned before, the project terminated nine months before the original end date. Consequently, no regional dialogue occurred in year three, resulting in fewer recommendations than originally outlined in the project planning documents (FGD_7). The evaluation team did not identify any additional factors that contributed to the improvement in education in food processing, as no other organisation or stakeholder active in the region worked on strengthening education in this specific sector. Single initiatives by Erasmus+ or the EU may have broadly complemented efforts made in improving education and teaching, but they did not lead to specific contributions attributable to the project outcomes (Int_15, Int_4).

The evaluation team confirms hypothesis O1 – MO1 based on the substantial evidence provided.

Output B: BSc. MSc. And PhD study programmes in food technology, M.Ed. and college programmes for 'Food Technologists' have been introduced in participating institutions based on national requirements.

	Baseline Value	Target value	Final value	
B1. The study programmes in food technology are incorporated in the training curriculum of partner universities and colleges.	BSc. Introduced in 2 countries	5	2	The BSc. programme was introduced at 6 institutions in 3 countries. The MSc. programme was introduced at 5 institutions in 3 countries. The M.Ed. and PhD programmes have not been introduced at any institution.
B2. Modules such postharvest technologies, food safety and quality, ecological and resource-conserving food production, and sustainable food technology are an integral part of the study programmes in food technology.		16 Modules	7 Modules	Work packages was outsourced to an external consultancy. Modules could not be developed as planned.

Output B focused on the implementation of curricula at partner institutions. The corresponding outcome indicator failed, as the curricula for the M.Ed. and the PhD programme were not completed. Similarly, new modules were only partially developed and integrated and were not completed.

Hypothesis 2: As part of the contribution analyses, the project team analysed whether the implementation of harmonized curricula (O2) has led to intensified regional cooperation between partner institutions (O9). Workshops to revise the curricula of educational institutes were outsourced to an external consultancy as a planned instrument to achieve this output. In previous projects, curricula development was achieved by including institutions form all four project countries. However, the consultants used a different approach and worked bilaterally with partner institutions to improve and implement their curricula. As previously stated in this report, not all curricula could be harmonized and implemented in the four project countries, and evidence suggests that the approach used by the consultants may have led to these undesired results. Progress made in implementing new (M.Ed./PhD) or existing curricula (BSc. and MSc.) at new partner institutions was unsatisfactory (Int_4, Int_25). Universities and colleges remain at different levels in terms of implementation.

Nevertheless, other project activities, such as joined teachers' training, regional events, conferences and academic mobility programmes, led to an intensification of regional collaborations. Evidence that confirms the hypothesis includes the intensified regional collaboration of project activities and include:

- **Institutionalization of collaboration:** Formalized partnership agreements via Memorandums of Understanding have been set up between all educational institutions that took part in the project. This process initiated by the institutes without any official involvement of the project (Int_24).
- **Strengthened relationships between UZB and TAJ:** Teachers from the TUT and the Bhukara institute collaboratively published articles and book chapters. (*FGD_6*)
- **Strengthened relationships between KAZ and KGZ:** Teachers from the Kazakh Agrarian University compiled joint articles with teachers from the Khujand Institute and the Bishkek University.
- **Strengthened national relations in TAJ:** Educational institutes within TAJ began collaborating, such as enabling students from Khujand to pursue a PhD at the TUT(FGD_16)
- **New mode of knowledge exchange:** Teachers from the TASU conducted webinars with other participating institutions on relevant topics in food technology (FGD_12)
- **Double-Degree:** Lastly, with only minor contributions by the project through intensified networking at regional events, HE institutes in KAZ and KGZ have established a double-degree programme in Food Technology enabling students to study one year in each country with mutual recognition of the degree by both countries.

Considering the intensification of regional exchange and new modes of collaboration, the evaluation team concludes that there is substantial evidence supporting hypothesis 2.

FIGURE 9: PROJECT FIGURES ON ACADEMIC MOBILITY PROGRAMME

Hypothesis 3: A third hypothesis whose results might not be sufficiently reflected in output B is related to whether the active support of regional academic mobility by the project team results in an improvement in education and training at the regional level. According to internal monitoring data, between June 2017 - February 2019, 232 participants from four countries took part in exchange programmes (see figure below). These programmes included (i) summer and winter schools, (ii) teacher exchanges (where teachers from one institute taught for up to five weeks at other partnering institutions) and (iii) opportunities for a semester in another country.

Evidence that supports the hypotheses are:

- **High satisfaction level with implemented exchange formats:** Feedback provided by both teacher and student participants showed that the way student exchanges were formatted was highly accepted and led to improved levels of individual learning and teaching (*FGD_6, FGD_5, FGD_14, Stud_5, Stud_4, Stud_3*). This finding is the pre-requisite for establishing causality between exchange activities and the overall project objective.
- **Willingness to continue formats in next project and beyond:** There is common agreement that the format of the exchange programmes should continue in the next project and beyond (FGD_7, FGD_6, FGD_12). Feedback suggests that partner institutions should begin to allocate their resources and show more commitment to the organizational process of the exchange programmes. This feedback shows that partner institutions see the benefit of these activities and consider them an asset to their education programmes.
- **Duplication of academic mobility programmes to other educational programmes:** In one partner institution, the format of the exchange programmes independently began to include PhD programmes (Int_25) as a way to strengthen inter-institutional exchange in the sector. This again indicates the high value seen by the educational institutions and their willingness to invest in exchange activities.

Evidence that that impedes confirming the hypothesis are:

- **Different learning achievements due to heterogeneity of institutions:** Interviews revealed that the level of learning reported by students participating in academic mobility programmes varied. However, all teachers reported having learned new content or at a pedagogical level. Some students from institutes with more resources reported valuing the opportunity for a new intercultural experience but were dissatisfied with the level of educational content (Stud_5, Stud_4). For students at the college level, the exposure to new content, equipment and material from HE institutions had unanimous positive learning benefits (Stud_3, Stud_6). It is important to keep the heterogeneity of institutions in mind and design formats in a way that benefits all participants.

- **Logistical challenges when travelling:** Substantial concerns regarding logistical challenges when travelling between countries or to more remote places (like Khujand or Bhukara). These concerns will continue, as travelling by road is too challenging for many of the interviewed students and teachers (*Stud_5, FGD_6*).

	Output C: Vocational school teachers of food technology have improved skills in didactics, special didactics and professional pedagogy.			
	Baseline Value	**Target value**	**Final value**	
C1. 80 % of teachers confirm improved level (3 and above on a scale of 1-5) of practice-oriented approach of Food Technology teaching staff. 80 % of students confirm improved level (3 and above on a scale of 1-5) of practice-oriented approach of Food Technology teaching staff.	55%	80% 80%	98,33% 94.32%	98.33% of teachers and 94.32% of students have confirmed improved level (3 and above on a scale of 1-5) of practice-oriented approach of Food Technology teaching staff. Teacher FGDs confirm improved levels of knowledge During student interactions, improved teaching skills are confirmed; demand for better teaching once observed in other universities
C2. 80% of involved production masters are qualified according to the standardized study programme.	-	80%	0%	No standardized programme has been developed yet.

Output C did not have a corresponding hypothesis for contribution analyses. The subsequent analyses focus on the achievement of indicators of success. Output C and the corresponding indicators focused on improving competences of teachers and students at the college level. Indeed, the results of a survey conducted by the M&E officer showed high levels of confirmation from both teachers and students in KAZ and KGZ (*monitoring report 2019*). Discussions during the evaluation mission showed that teachers from all countries substantially improved and updated their knowledge during training sessions and workshops that were conducted during the project (*FGD_12, FGD_10, FGD_2, FGD_5, FGD_6*). Participants stated that without the project they would not have been able to receive any comparable opportunity for learning. The second indicator from output C was not assessed as no standardized M.Sc study programme resulted from the project.

Output D: **Collaboration between the participating educational and research institutions, companies and responsible government agencies regarding training and upgrading of specialists in the food technology and vocational education is established at the national level.**				
	Baseline Value	**Target value**	**Final value**	
D1. Three Centres for Technology Transfer, Education and Entrepreneurship (CTTEEs) are financially self-sustaining	0	3	0	TAJ: Is currently being established; services to be defined. KAZ: Has been recently registered as non-profit organisation; currently defining core areas of services KGZ: Is established, but not self-sustaining.
D2. The number of private companies that participate in the examination boards and certification of partner educational institutions is doubled.	19	38	34	Details on the participation of company representatives was collected from partner institutions in KAZ, KGZ and TAJ. In total, 23 companies took part in examination boards.
D3. Trainings and consultations on postharvest technologies are developed and implemented through ten learning activities conducted for farmers/companies.	0	10	13	3 training sessions on post-harvest technologies were conducted. 10 knowledge-multiplication events were conducted by the participants. In total 13 training sessions were conducted.

Output D did not have a corresponding hypothesis for contribution analyses. Similar to output C, the analysis focused on the outlined success indicators. Output D focused on improving the collaboration between the private sector and the pilot institutions. One core element of this output was the establishment of CTTEEs to act as a bridging organization between the different project entities in a way that offers services demanded by

the market. The success indicator measuring the progress of output D requires that centres be self-sustaining at the end of the project. The evaluation team found that none of the centres reached this goal, neither in terms of financial sustainability nor in institutionalization or integration with the partner institutions. At present, all CTEEs are highly dependent on the resources project, including the staff member who manages the centre. A decision to change the CTTEE location in TAJ from Isfara to Dushanbe and personnel changes in TAJ and KAZ also hindered additional progress. The second indicator under output D focuses on the number of companies participating in examinations at partner institutions. The assessment concluded that 34 companies spread across KAZ, KGZ and TAJ took part in examinations, which, according to the indicator, is a success. The last indicator under output D measures the number of postharvest technologies training sessions. The project conducted 13 training sessions and achieved the originally planned target number. However, these training sessions excluded farmers and other non- business people from the region.

Evaluation Dimension 2 under 'effectiveness' receives 20/30 points.

Evaluation dimension 3: The occurrence of additional (not formally agreed) positive results has been monitored and additional opportunities for further positive results have been seized. No project-related negative results have occurred – and if any negative results occurred, the project responded adequately

Through the application of the Most Significant Change Technique, the identification of several unintended results resulting from the implementation of the occurred, and all but one of the unintended results were positive. Three heads of department from the pilot institutions confirmed this analysis and saw their study programmes increase in both applications and enrolments because of the project. Departments can now select their students on quality criteria and have allowed more than one batch per year, enabling more students the opportunity to pursue a career in food technology.

'During trips and workshops, we have gained a lot of new skills and received positive feedback from students. This has made us the leading faculty and also increased our salaries. We have doubled the number of students in our faculty. Before we were headhunting students, now we can choose them based on sound selection criteria.' – FGD 2 with educational institutes

A second unintended result identified was the increased exchange between researchers of the institutions involved in the project. Several teachers from Khujand, Bucharara and Tashkent confirmed their collaboration in publishing journal articles, participation in conferences, or informal peer review to support each other in strengthening article submissions (*FGD_2, FGD_10 with educational institutions*). A third unintended result of the project was the impact on the careers of teachers and researchers involved. Teachers shared stories of personal change and how they gained confidence, motivation and support to pursue PhDs or other further education programmes because they participated in the project (*FGD_2, FGD_12 with educational institutions*). A potential negative unintended consequence of the project pertains to a number of teachers who received training were headhunted by local companies due to their enhanced competences and skills (Int_24).

Unintended positive or negative results at the project outcome level are not monitored by the monitoring system nor by KOMPASS, but staff members appeared to be aware of them and regularly discussed them within the team. The assessment found no mitigating strategies or activities to counteract any potential unintended negative results or risks arising from the implementation of the project that the team could have used to improve the situation. This was also true in cases where equipment was misused or project related infrastructure was unused.

Evaluation Dimension 3 under 'effectiveness' receives 27/30 points.

Overall assessment of effectiveness

A general preliminary conclusion regarding the effectiveness of the project demonstrates a mismatch between project indicators and actual benefits to the region. The project indicators do not measure several positive outcomes of the project, such as the increase in academic mobility in the region. Only half of the original indicators at the objective level of the project succeeded due difficulties in integrating all four study and training

programmes to the national education systems, which was not foreseen before to the implementation of the project. The unsuccessful service provision by the consultants tasked with a broad range of packages added to the complexity and difficulty of the project receiving only 20 out of 40 points. The contribution analyses found significant evidence to confirm the established hypotheses between the selected results. However, each analysis identified impeding factors that hampered the effectiveness of the selected methods. As a result, the evaluation team awarded 20 out of 30 points in the second evaluation dimension. The team identified several positive unintended results resulting from the project, which substantially contributed to the achievement of the project objective. These include an increase in applications for food processing education programmes, enhanced research collaborations between individual researchers; new MoU based partnerships between institutions and personal career development of teachers. Lastly, the assessment found that unintended results or risks that occurred, because of the project. Thus, project 'effectiveness' received 27 out of 30 points and is considered 'moderately successful'.

Criterion	**Assessment dimension**	**Score & Rating**
Effectiveness	The project achieved the objective (outcome) on time in accordance with the project objective indicators.[8]	*20 out of 40 points*
	The activities and outputs of the project contributed substantially to the project objective achievement (outcome).[9]	*20 out of 30 points*
	No project-related (unintended) negative results have occurred – and if any negative results occurred, the project responded adequately. The occurrence of additional (not formally agreed) positive results were monitored and additional opportunities for further positive results have been accounted for.	*27 out of 30 points*
Overall Score and Rating: MODERATELY SUCCESSFUL		*Score: 67 out of 100 points* *Rating: 6-level-scale*

[9] The first and the second evaluation dimensions are interrelated: if the contribution of the project to the objective achievement is low (2nd evaluation dimension) this must be considered for the assessment of the first evaluation dimension also.

4.4 Impact

Evaluation Basis and design for assessing impact

Evaluation basis: There are three evaluation dimensions used to measure the impact of the project. Evaluation dimension one measures the extent a contribution has on achieving the intended overarching objectives of a project. Evaluation dimension two incorporates whether project contributions apply to international development initiatives, such as the 2030 Agenda and the SDGs. Evaluation dimension three ensures that no project-related negative results have occurred, or if they have that the project respondents accordingly. The results model was reconstructed to include all three evaluation dimensions and overarching development goals, such as relevant SDGs, were also allocated to the results model. As referenced in section 2.2, the project intended to contribute, at the impact level, to SDG 8 'the promotion of sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all' in Central Asia as well as SDG 2 'elimination of hunger', which needs to be assessed. However, several limitations, including the preponement of the project, made widespread and attributable impacts impossible to be established by this CPE. Additionally, the nature of any unintended positive or negative results, corresponding with evaluation dimension three, were analysed. The assessment concluded that the occurrence of additional positive results at impact level and additional opportunities for further positive results were appropriately managed.

Evaluation design and methods: Potential contributions of the project were identified during the evaluation despite several limitations mentioned above. The evaluation team followed a similar methodological basis as the effectiveness criteria and implemented a contribution analysis. Key data sources used in the analysis were GIZ management and team, donors, the BMZ representative and additional relevant stakeholders. Three hypotheses from the results model were examined in more detail to explain causal relationships between the project outcome and impacts. Most significant change stories supported the verification of the selected hypotheses. Unintended impacts or results were identified through the examination of different data sources, such as i) monitoring data, ii) perception of the project team and iii) perception of key partners and the target group.

Analysis and assessment of project impact

The shortened project timeline made assessing the impact of the project difficult to assess. Therefore, the evaluation team combined evaluation dimensions one and two in the analysis of the project and identified causal links between project contributions and outcomes to the impact of the project. Three selected hypotheses were selected as the basis of the contribution analysis. A summarization of the tentative conclusions on the achievement of overarching development results is at the end of the section.

Evaluation dimension 1: The intended overarching development results have occurred or are foreseen

Evaluation dimension 2 - The project contributed to the intended overarching development results

The following hypotheses form the foundation of the contribution analysis and illustrate how the project objective contributes to overarching development results.

- Hypothesis 4 MO – I2: Improvement in the quality of education and training leads to improved competences and skills of graduates, teachers, specialists in food processing
- Hypothesis 5 MO – I3: Improvement in the quality of education and training leads to improving the match of supply and demand of labour in the food processing market
- Hypothesis 6 O4 – O11: Better collaboration between the private sector and educational institutes (O4) lead to enhanced capacities and innovation potential of both private sector and education institutions (O11)

Hypothesis 4: The project team analysed whether the objective (MO1) on improving quality in education and training led to long-term improvements of competences and skills of graduates, teachers and specialists in food processing (I2) as part of the contribution analysis. Since the evaluation team was unable to conduct

before/after assessments to understand the changes in skills and competences of teachers and students, the basis of the following section is anecdotal evidence from stories of change.

The evaluation team found compelling evidence that teachers and students improved their knowledge and gained competencies due to the presence of new infrastructure, equipment and skills provided by the project. Factors that support the hypothesis are as follows:

- **At teachers' level:** Teachers shared specific examples of 'eye-opening' incidents when learning about new technologies and techniques in food processing and utilized newly acquired knowledge in their work and lectures (*Int_16, FGD_12, FGD, 2, FGD, 14 with education institutes*). Stories of change illustrated how teachers improved their skills. The combination of receiving innovative infrastructure, accompanied by a specific training and long-term exchange through the newly created academic networks enabled teachers to pursue a life-long learning approach and continuously find opportunities to upgrade their skills (*FGD_12*).
- **At students' level:** Similarly, students expressed confidence when discussing their newly acquired skills and showed high self-esteem when utilizing new laboratory equipment (*Stud_2, Stud_1*). Across all institutions at the college level, evidence shows that students were more motivated and committed to staying in the occupation of food processing due to the high-quality education available to them. Most college students plan to pursue HE programmes in food technology to have better opportunities in the labour market (*Stud_3, Stud_6, Stud_7*).

Factors that weaken the hypothesis are:

- **Limited scalability:** Impacts are limited to the pilot institutions that were involved in the project. The analysis did not measure broader impacts to other educational institutions. The scalablity is limited due to the relatively low number of universities across project countries. However, at the college level, upscaling impacts and improving on competences have some potential. However, the sustainability of these impacts is marginal. The challenge of continuous and subject-specific teacher training remains challenging for TAJ and UZB. Lastly, the project failed to institutionalise any of the training programmes.

Hypothesis 5: The second hypotheses of the contribution analysis focused on if the project can increase the supply of skilled workers with the labour demand in the food-processing sector. Finding evidence to corroborate this hypothesis was challenging, as no data prior to the project(s) were available. The assessment considers all factors that support or reject the hypotheses. Supporting factors include:

- **High employment rates of graduates:** As shown in the 'effectiveness' section, post-graduation employment rates in the food technology sector are very high, illustrating the demand for skilled workers.
- **Proximity between companies and institutions:** Stories of change showed that thanks to the project, educational institutes increasingly interact with employers from the private sector. (*Int_1, FGD_2 with educational institutes*). Employers take part in final examinations, there is a dialogue regarding curricula design and job fairs take place with local companies in the region (*FGD_2*). Matching students with companies appears to be very effective in semi-urban industrialized areas where many of the institutes are located, such as Kara Balta and Khujand (*FGD_2*).

  'There is now more informal collaboration between different actors. I feel fine to just call the rector of the university if I want to discuss something. We have more exchange, more joint events. We are celebrating, for instance, the Day of the Bread together.' – (FGD_11)

Factors that undermine the hypothesis include:

- **Companies' perception towards investing in HR:** There are no in-house training programmes in the entire Central Asian food-processing sector. While some companies appear to be open to investing in trainers, others argue that the government is responsible for training students (*Int_2*). The overall perception of the project by the private sector remains ambiguous.

- **Omission of new trends:** The project does not cover training in new trending topics, such as logistics of food (*FGD_3*) and improved food storage methods. This is particularly important to UZB, where yields are high but storing food is difficult (Int_16, FGD_12).

Hypotheses 6: The second hypotheses of the contribution analysis for the impact criterion considered whether more innovation potential could be triggered in the food-processing sector through the establishment of the CTTEEs and closer collaboration between companies and institutions. The hypothesis assumes that companies can contribute practical knowledge and skills to the classroom and that Universities / Colleges can offer research services to identify innovative products, services or methods. The evaluation team found some evidence supporting the hypothesis with several caveats. Two stories of change support the underlying hypothesis:

Applying knowledge from educational exchanges directly: A milk-processing company in TAJ participated in an educational exchange to Germany, where they interacted with various university representatives. On the trip, specific knowledge including (i) improving milk transportation via improved formulas and (ii) the reconfiguration of equipment to improve milk processing directly helped a company in TAJ, improving quality and efficiency of their established production processes (*Int_3*).

- **Research services provided:** Two educational institutes provided research services for companies to test recipes or examine the consistency of certain products using the equipment and training provided by the project. At present, these services are free of charge or in exchange for raw materials. However, institutions these services as potential income-generation in the future (*FGD_2, FGD_14*)

Factors that undermine the hypothesis include:

- **Attitudes and perception of companies:** Despite several success stories, the continuous exchange between the private sector and academia was not successfully established. In TAJ, companies consider joint activities as a ‘social project’ that mainly benefit colleges and universities. The assessment found that private sector collaboration with educational institutions is highly dependent on individuals within companies and depends on individual commitments and motivation by actors involved.

The insights gained from the implementation of the contribution analyses lead the evaluation team to the preliminary conclusion that while there are overall trends present because of the project, the previous projects played a significant role in contributing to the overarching development results. The improvement to the education system and training in the pilot institutions along with the improved level of teaching and the education graduates receive trains a more capable workforce in the future. However, due to a low number of programme graduates (at MSc. Level in KAZ and KGZ), measuring the real impact new graduates have on the food processing sector can only be recognized years into the future. As of now, the project results at impact level positively influenced by framework conditions is demonstrated in countries like UZB, which has recently positioned itself more internationally and all countries within the project supporting international study programmes. Expected trade agreements between the Central Asian countries are also a promising sign that the regionalization process is making progress all levels (*Int_14*). No further conclusions on the impact of framework conditions were made.

Evaluation Dimension 1 under ‘impact’ of the project receives 30/40 points.

Evaluation Dimension 2 of the ‘Impact of the project’ receives 25/30 points.

Evaluation dimension 3 - The occurrence of additional (not formally agreed) positive results at impact level has been monitored and additional opportunities for further positive results have been seized. No project-related negative results at impact level have occurred – and if any negative results occurred, the project responded adequately

The unintended impacts of the implementation of the project and the management of these risks at the impact level were identified during the evaluation mission and include:

- **Improved reputation of internationally accredited university study programmes:** According to the perspectives of several heads of department and rectors, the project contributed to an improvement in the pilot universities official ranking. Key examples include the pilot institution in Khujand that climbed up to the fifth position in the national ranking in TAJ (Int_1 with educational institute) and ATU in KAZ receiving a higher ranking than in previous years. The ATU rector directly attributed this increase to the enhanced academic mobility triggered by the project (FGD_7).
- **Engagement in lobbying activities:** Several participants began to engage in lobbying activities to promote dual education among government representatives in KGZ and unintended but direct result of the regional dialogues and working groups (FGD_7 and FGD_8).

The assessment of the risk analysis of the project was difficult to coordinate, as the former project director was not available during the evaluation mission (as he had already reached retirement age and left GIZ). It appears that there was no specific strategy in place to handle risks, but close communication to partners and within the team allowed an early understanding of potential risks that could hamper the follow-up project (*FGD_7*).

Synergies between the economic and social dimensions of the project exist. While the project objectives focus on social dimensions such as generating employment and quality education, it also contributes to the sustainable economic growth of the food-processing sector. The project team did not identify any environmental or ecological trade-offs in the project (*Int_4*).

Evaluation Dimension 3 of 'Impact' of the project receives 30/30 points.

Overall assessment of impact

The results model identified several overarching development results that occurred because of the project, however, determining causal links were difficult to assess due to the shortened project timeline resulting in several events not taking place. Instead, the assessment identified trends that suggest that the project and its predecessors contributed to overarching development goals. The previous project established the foundation for structural change and the current project helped formalize them through a broad range of single events and training sessions. While these activities have undoubtedly contributed to overarching development results, they lack the institutionalization that could bring long-lasting impacts to the region. Therefore, the assessment team awarded the first 'impact' evaluation dimension 30 out of 40 points, the second evaluation dimension 25 out of 30 points and the third evaluation dimension 30 out of 30 points.

The overall score for the assessment project 'impact' receives 85 out of 100 points: *Successful*.

Criterion	Assessment dimension	Score & Rating
Impact	The intended overarching development results have occurred or are foreseen (plausible reasons).[10]	*30 out of 40 points*
	The outcome of the project contributed to the occurred or foreseen overarching development results.[11]	*25 out of 30 points*
	No project-related (unintended) negative results at impact level have occurred – and if any negative results occurred the project responded adequately. The occurrence of additional (not formally agreed) positive results at impact level has been monitored and additional opportunities for further positive results have been seized.	*30 out of 30 points*
Overall Score and Rating: SUCCESFUL		*Score: 85 out of 100 points* *Rating: 6-level-scale*

4.5 Efficiency

Project efficiency examines whether the proportion of resources provided to the project has led to satisfactory and cost-effective results. Analyzing both budget and results data are required to perform robust efficiency analysis of the implementation of the project. Focusing on results alone would limit the use of data in strategic decision-making. Efficiency is the process between when an input transforms into a result, or to describe the implementation of processes, procedures and structures of a project. In the field of international cooperation, this definition follows the OECD-DAC criteria, and is defined as 'a measure of how economically resources/inputs (funds, expertise, time, etc.) are converted to results'. GIZ follows a maximization approach to efficiency, which analyzes whether results, at the output our outcome level, are at their full potential using the given resources of the project. Efficiency, in the context of this project, is the transformation of inputs into results and effects whose relation to each other represents the level of efficiency of the activity. This analysis categorizes efficiency into two different categories, which represent the different evaluation dimensions in this section. The first evaluation dimension (evaluation dimension one) pertains to production efficiency and

[10] The first and the second evaluation dimensions are interrelated: if the contribution of the project outcome to the impact is low or not plausible (2nd evaluation dimension) this must be considered for the assessment of the first evaluation dimension also.

evaluates the transformation of inputs to outputs. The second evaluation dimension (evaluation dimension two), pertains to allocation efficiency of resources and determines whether project resources could have been used more efficiently to achieve the objectives of the project.

There are many ways to evaluate the efficiency of a project. This CPE applied the so-called the 'follow the money approach', following GIZ's guidelines on efficiency assessment. The benefits of the 'follow the money approach' is that it offers a pragmatic and comprehensive method for identifying potential improvements in the efficiency of a project, where all expenditures are allocated to the corresponding outputs of the project. The first step of this approach involves a systematic 'mapping' of costs; the second step covers both the evaluation of cost expenditure per output and the assessments by involved or external actors. The strength of the 'follow the money approach' lies in the fact that all costs are systematically tracked, reducing ambiguity in tracking outputs that are difficult to attribute costs to. Therefore, inefficient outputs that contribute little to the outcome goal can be identified, improved or eliminated.

Evaluation design & methods: The evaluation team made use of an Excel tool developed by GIZ's corporate unit evaluation to standardise the efficiency analysis of the project. The tool uses (financial) data from the project including:

- the 'Kostenträger-Obligo' report (i.e.the financial report on costing and obligo) of the project,
- the comparison of planned budget figures with actual figures,
- the results matrix, and
- the contracts for possible procurements as well as possible co-financing.

The Excel tool measures different aspects of efficiency[12] and provides a standardised structure for evaluating the project's production efficiency criteria. However, the tool does not automatically evaluate these criteria and their relation to the outputs of the project. The data and relationships between different elements of the project require additional interpretation using qualitative evaluation instruments to measure the project's production efficiency. Therefore, information pertaining to the project's efficiency was collected using interviews and discussions as part of the analysis in order to supplement the evidence provided by secondary data. The second evaluation dimension measures the allocation efficiency of project resources and determines whether they correspond to achieving the objectives of the project. Assessing allocation efficiency is considered to be one of the most demanding evaluation exercises. Given the scope of this CPE, the basis of the allocation efficiency analysis is assumptions and anecdotical evidence during interviews and discussions instead of complex methods such as shadow price approaches or complex benchmarking methods.

There are several limitations to the methods of the efficiency analysis. First, cost allocation calculations per output were conducted retrospectively since the 'follow the money approach' was not introduced until after the implementation of the project. Second, the retirement of the original project team leader before the evaluation mission hindered the background investigation of the rationale of the project. To compensate for this knowledge gap, the team leader and project teams made and verified several assumptions. Triangulation methods were implemented using quantitative and qualitative insights.

Analysis and assessment regarding efficiency

12 The five sheets are as follows:

- In the cockpit, the tool calculates the required distribution of costs to the respective outputs and puts this in relation to the achievement of objectives at the indicator level.
- In the costs sheet, the 'Kostenträger-Obligo' report of the project is entered, and the individual costs are allocated to the outputs.
- In the Co-Fi & Partners sheet, co-financing and partner contributions are recorded and allocated to the outputs.
- In the sheet target/actual planning the target/actual planning of the project as well as the planned costs of the future outputs are entered (starting at the date of the evaluation).
- In the sheet expert months, the day the employees of the project per output are to be documented. These serve as the calculation basis for distributing the costs of the personnel instruments to the outputs in the project.
- In the results matrix sheet, the impact matrix from the last current progress report of the project is transferred in order to provide state of the art data in the cockpit

The following assessment uses information extracted from the 'Kosten-Obligo report' and interviews with the project team and stakeholders.

Deviations

The evaluation team could not find substantial deviations between the identified costs and the projected costs of the project based on the information provided to the evaluation team and shown in the table below, (*Kosten-Obligo-Report, BMZ progress reports*). According to this indicator, the project managed costs appropriately and reacted to the changes in the environment, including the re-integration of UZB into the project. However, deviations between the identified costs and the projected costs can be misleading as criteria for assessing the efficiency of a project and can lead to bias in efficiency results. Therefore, several additional evaluation dimensions examine the project's production and allocation efficiency in more detail.

Comparison of target and actual planning values								
2016		**2017**		**2018**		**2019**		**TOTA**
Target	Actual incl. obligo	Target	Actual incl. obligo	Target	Actual incl. obligo	Target	Actual incl. obligo	Targe
€250.000,00	€283.464,50	€2.900.000,00	€2.834.746,40	€3.200.000,00	€3.116.483,84	€533.000,00	€577.767,83	€6.88

Evaluation dimension 1: The project's use of resources is appropriate with regard to the outputs achieved. [Production efficiency: resources/outputs]

As illustrated in the effectiveness section and in the table below, indicator achievements at the output level are mixed, as half of the indicators were not achieved. Non-achievement of indicator levels can be traced to (i) the unsuccessful service provision of the consultancy hired for a broad range of packages (B2, B2) and (ii) high complexity of the project setting (C2). Furthermore, some indicators were not addressed (C2) and were not analysed. The evaluation team would like to reiterate that several positive outcomes, such as academic mobility programmes, were successfully achieved, but were not included in the BMZ indicators. This mismatch of indicators and real achievement limited the analysis of the production efficiency of the project.

TABLE 4: INDICATOR ACHIEVEMENT AT OUTPUT LEVEL

Output indicators	A1. The Regional Steering Committee has become fully operational.	A2. The Committee has adopted two recommendations a year for regional comparability and specialization of training and study programmes in food technology and professional education.	B1. The study programmes in food technology are incorporated in the training curricular of partner universities and colleges.	B2. Topics such postharvest technologies, food safety and quality, ecological and resource-conserving food production, and sustainable food technology are an integral part of the study programmes in food technology.	C1. 80 % of teachers and students confirm improved level (3 and above on a scale of 1-5) of practice-oriented approach of Food Technology teaching staff.
Achievement	**100 %**	**100%**	**40%**	**44%**	**110%**

Output indicators	C2. 80% of involved production masters are qualified according to the standardized study programme.	D1. Three Centres for Technology Transfer, Education and Entrepreneurship (CTTEEs) are self-financing8.	D2. The number of private companies that participate in the examination boards and certification in partner educational institutions is doubled.	D3. Trainings and consultations on post-harvest technologies are developed and implemented through ten learning activities conducted for farmers/companies.
Achievement	**No assessment possible**	**0%**	**50%**	**130%**

The total costs allocated to project-related expenses are organised by output. Table 5 shows that output B accounts for one-third of the total project budget and that output A and C account for approximately one-quarter of the total budget combined. One-quarter of expenditures are expenses that are not allocated to specific outputs but have contributed to several indicators in various forms.

Interpreting the allocation of project funds is difficult considering the previously reported limitations and time constraints. Therefore, it is unclear if the strategic allocation resources would have allowed for a higher degree of indicator fulfilment. However, the following interpretations originate from the outcomes of the analysis. First, the allocation of one-fourth of the expenses to general project-based expenses is a substantial share of costs, but appropriate considering the difficulty in integrating regional stratigies for four different countries. Coordination, communication and travel expenses contribute to costs that do not contribute to specific outputs are vital in facilitating many project activities. Additionally, staff expenses are under several categories including overarching expenses and work activities because their tasks, including the organization and coordination of academic mobility programmes or other regional activities, could not be clearly allocated under one output. Therefore, delegating staff responsibilities in a way that pertains to specific outputs could help to increase project efficiency. Lastly, benchmarking could have provided more detailed conclusions regarding overarching project expenses but was beyond the scope of the evaluation.

Output A is the establishment of regional dialogues and the subsequent adoption of recommendations that result from these dialogues by project stakeholders. All indicators under this output succeeded using 8% of the total allocated project expenses. Expenses related to project A were mostly travel costs for dialogue participants. Project countries hosted the dialogues, which did not require long haul travel or visa costs. One full-time national staff member (*FGD_7*) was responsible for the coordination of the dialogues. These expenses are considered appropriate and in line with the needs of the project.

Output B focused on the development of study programmes. Curricula development was outsourced to a consulting firm and infrastructure procurement was organised internally. According to the *Kosten-Obligo Bericht*, approximately 23% of project expenses went to providing equipment for infrastructure procurement for the six pilot institutions. The evaluation team found evidence (*FGD_12, FGD_6, FGD_14, FGD_13 with teachers*) that the equipment and infrastructure is well-used and maintained across almost all pilot institutions, with one exception in UZB. Therefore, budget allocation for equipment and infrastructure appears to be appropriate and in line with the needs of the project. The consulting firm did not succeed in developing new curricula. It remains unclear whether their contract should have been terminated earlier to mitigate the costs related to the intended output *(Int_4*).

Output C focused on facilitating exchange programmes and teachers' training. These activities encompassed a wide range of events conducted in several locations. Considering the high satisfaction and appreciation rates

among teachers and the high participation rate (49 teachers from 15 educational institutions) (*Abschlussbericht 2019*), the evaluation team supports the decision to allocate 20% of the budget output C activities.

Output D focused on fostering the collaboration between educational institutions and the private sector and accounted for 16% of project expenses. Output D related expenses were the travel costs for the study tours in Germany and the establishment of the CTTEE centres. CTTEE expenditures include hiring one national staff member per centre and one international expert (*Internal report of Internationale Fachkraft*), tasked with supporting the conceptualization of the centres for two years. The engagement of representatives from the private sector was very effective and important for the successful implementation of output D as well as other measurable benefits. Therefore, the evaluation team considers these expenses to be in line with supporting the success of the outputs and appropriate for the project. However, not all of the centres were operational during the project period. Changes to the location of the CTTEE in TAJ and to personnel in KAZ, as well low levels of starting capital and resources caused delayed operationality for several of the centres (*Int_3, Int_10 with project team members*). The evaluation team concludes that the establishment of the CTTEE centres as a sub-activity to output D without the help of outside partners or doners was not an efficient solution to promote private sector engagement with educational institutes. The team recommends strengthening existing structures set up by the government (in TAJ), or other donors (in KGZ) to maximize results given the level of resources available.

TABLE 5: COST ALLOCATION PER OUTPUT

	Output A	Output B	Output C	Output D	Overarching costs
Outputs	Recommendations are implemented at the annual regional dialogue forums for regional comparability of training and upgrading program for specialists and management in the field of food production and vocational education.	The curricula of B.Sc, M.Sc and PhD in food technology, and M.Sc of Education, as well as college program on 'Food Technology' are implemented at participating institutions regarding national requirements.	Vocational schools' teachers on 'Food Technology' subject have improved skills in didactics, special-didactics and professional pedagogy.	Collaboration between the participating educational and research institutions, companies, as well as the responsible government agencies on the issues of training and upgrading of specialists in the food technology and vocational education is established at the national level.	
Costs incl. obligo	€502.920,80	€1.961.047,59	€1.299.991,84	€992.767,73	€1.627.155,31
Co-Financing	€0,00	€0,00	€0,00	€0,00	€0,00
Partner contribution	€0,00	€0,00	€0,00	€0,00	€0,00
Total costs	**€502.920,80**	**€1.961.047,59**	**€1.299.991,84**	**€992.767,73**	**€1.627.155,31**
costs in %	**8%**	**31%**	**20%**	**16%**	**25%**

Qualitative data was collected through interviews and discussions in order to overcome limitations in the available quantitative data and are outlined below:

Team set-up: Interviews and discussions concluded that roles and responsibilities within the team were clear and that collaboration was fruitful and effective throughout the project (*Int_10, Int_3, Int_5*). Weekly calls involving staff members from all countries supported communication and coordination activities. However, the national coordinators were ineffective in proactively implementing and developing activities and focused on administration activities instead. Recommendations from the project management as well as the coordinators

indicated that strengthening the role of the national coordinator within the project planning could yield further benefits in terms of effectively and efficiently implementing activities (*Int_9, Int_15, Int_4 with project team*).

Coordination with partners: The project had constructive relationships with stakeholders and project participants. Supporting factors included the profound diplomatic expertise of the national coordinator in UZB and the project office located at one of the partner institutions in TAJ. The only difficulties that occurred were at the ministerial level, especially in KAZ and TAJ, where communication was indirect and required active follow-up.

Outsourcing of activities: Internal GIZ requirements demand a certain percentage of activities to be outsourced. The project decided to outsource output B, the development and implementation of curricula, to a German based consultancy. The consultancy changed the established workflow of content-development in the previous projects (FGD_7). Changing the established work processes led to unsatisfactory results in designing and implementing quality curricula, leading to negative results.

Evaluation Dimension 1 of 'efficiency' receives 50/70 points.

Evaluation dimension 2: The project's use of resources is appropriate with regard to achieving the projects objective (outcome) - [Allocation efficiency: Resources/Outcome]

In contrast to production efficiency, allocation efficiency describes the transformation of inputs to outcomes/impact. Three indicators show achievement levels of 50% at the project objective level. The indicator corresponding to the employability of graduates was fully achieved, according to monitoring data and triangulated with perceptions from university representatives (see table).

TABLE 6: ACHIEVEMENT OF PROJECT OBJECTIVE INDICATORS

Project objective Indicators	MOI1: Four regionally agreed study programmes on training of teaching and managerial staff of the universities specializing in food technology, in compliance with international standards, are incorporated in the national education systems.	MOI2. Four tested professional education programmes on training and professional development of food technology specialists as well as training of production masters, in compliance with international standards, are incorporated in the national education systems of all partner states.	MOI3. Six months after graduation, 80% of the graduates (50% female) of reformed study programmes are employed according to their professional qualifications or continue their education in the respective major.	MOI4. 70% of 90 partner companies confirm improved competencies of the graduates of reformed study programmes (3 and above on a scale of 1-5).
Achievement	**50%**	**50%**	**100%**	**50%**

Determining if resources could have been used more efficiently is difficult to assess given the challenges of the evaluation setting and the time constraints of the evaluation. The overall basis of the evaluation approach was limited, since monetising the added value of the project objective was not possible. Addressing the supporting and hindering factors of allocation efficiency in more detail is required.

Project outreach to target group and scaling up: The project team was highly motivated and determined to maximize the number of people benefitting from the project. This claim is qualified by the extensive activities within the academic mobility programmes that were implemented, which resulted in more than 230 students and teachers being able to take part in an international exchange. This project showed above-average impacts at the grassroots level, directly benefiting young people and teachers, using a holistic approach in strengthening regional education systems.

Holistic approach: The projects' multi-level approach appropriately improved education quality from different angles. The project team was aware that it was necessary to work with different partners at macro, meso and micro levels of analysis to enable effective collaboration between actors.

Partner contributions: The project proposal *(repeated offer 2016)* defined partner contribution as either (i) allowing teachers and staff members to participate in training sessions and events during worktime without cost, (ii) providing space for the infrastructure and equipment provided and (iii) assuming costs of finding new personnel to implement the new study programmes. The evaluation team found that these contributions were sufficient. Some institutions (Int_1) expanded their facilities to provide space for larger infrastructure investments (such as bakeries or other processing facilities), while others renovated existing facilities (Int_16). Two partner institutions (Int_11 and Int_16) offered office space for the regional coordinator or the CTTEE manager. There were no direct financial contribution by partners or in-kind partner contributions to the project.

While the factors mentioned above favour allocation efficiency, some aspects hindered the maximation of impacts.

Low level of synergies: Coordination with other development projects in different countries was very low or non-existent. The evaluation team and stakeholders involved identified potential partner organisations to complement Erasmus, DAAD and EU projects in terms of content-development and exchange programmes. These include ADB projects at the college level and, potentially, World Bank activities, which are currently emerging in the sector to engage in the development of occupational standards. Additionally, synergies with the GIZ programme on 'Promoting Sustainable Economic Development' were found, but not explored further. There were no common interfaces with KFW programmes.

Evaluation Dimension 2 of 'efficiency' receives 20/30 points.

Overall assessment of efficiency

The assessment of the efficiency of this project was to some extent limited due to the time and methodological limitations of the study. Nevertheless, several preliminary conclusions were made based on the observations of the assessment team: (i) most expenses can be justified and are in line with the established project indicators; (ii) overarching project costs appear high but are acceptable considering the regionality of the project; (iii) the use of consultants for outputs B and D were not efficient. The evaluation team awards the efficiency of the project based on evaluation dimension one, 50/70 points.

The allocation efficiency of the project or evaluation dimension two received 20 of 30 points. This score measures the progress achieved in addressing the project's indicators despite challenges at the output level. The team determined that upscaling options available to the project were used as efficiently as possible, but that there is room for improvement in terms of making use of synergies available.

The overall score for the 'efficiency' assessment adds up to 70 out of 100 points and is considered 'moderately successful'.

Criterion	Assessment dimension	Score & Rating
Efficiency	The project's use of resources is appropriate with regard to the outputs achieved. [Production efficiency: resources/outputs]	*50 out of 70 points*
	The project's use of resources is appropriate with regard to achieving the projects objective (outcome). [Allocation efficiency: Resources/Outcome]	*20 out of 30 points*
Overall Score and Rating: MODERATELY SUCCESSFUL		*Score: 70 out of 100 points* *Rating: 6-level-scale*

4.6 Sustainability

Evaluation basis and design for assessing sustainability

Under the sustainability criteria, the goal of the evaluation is to determine whether the project results are likely to be sustainable and whether positive prerequisites for ensuring the long-term success of the project adequately in place. The evaluation dimensions for measuring sustainability are separated into two evaluation dimensions: 'Results are anchored in (partner) structures' (Evaluation Dimension 1) and 'Forecast of durability: Results of the project are permanent, stable and long-term resilient' (Evaluation Dimension 2).

Evaluation basis: Since the sustainability analysis also assesses the impact and the effectiveness of the project, the evaluation team constructed a methodology that was suitable for both criteria. The findings of the impact and effectiveness sections were re-analyzed to identify positive and negative factors contributing to the sustainability of the project.

Evaluation design and methods: The evaluation team identified trends regarding the sustainability of the project through perception questions posed in interviews and discussions to both the project team, key partners and the target group. All perception-based findings were supplemented with so-called 'hard facts', i.e. analyses on what approaches, methods, models, instruments, etc. are in place and what resources and capacities are available at the individual, organisational or societal/political level. The expected strength of the narrative is medium.

Analysis and assessment regarding sustainability

The following assessments on sustainability is based on information gained from the project team and stakeholders via qualitative interviewing methods and discussions.

Evaluation dimension 1: Prerequisite for ensuring the long-term success of the project: results are anchored in (partner) structures.

Considering that the project took place after two previous projects engaged in a similar goal, questioning the sustainability of the results of the project is well justified. This analysis looks at different project outcomes to understand the anchoring occurred in partner structures.

Several stakeholders perceived the project as an assortment of one-time or scattered events, opaquely connected to an undefined project goal (*Int_20, Int_19, Int_7*).

'The aspiration was to have more systemic impact and not only so many single events. It was not clear how single activities belonged together, there were no synergies between the outputs.' – Int_9

The project followed an activity-based approach, which is, according to an independent expert's view, common in the region due to the complex environment and delicate political situation. Despite the familiarity of this type of project implementation, events were considered one-time events with insufficient follow-up (*Int_19*). Project members suggested that the selection of participants is one of the most effective ways in ensuring sustainable outcomes of training sessions and events. Participants determined it was crucial to choose the right people for training sessions according to the respective purpose of the event. Interviewees demanded more transparency in selecting event participants (*FGD_3*).

The sustainability of measures differs across the countries and institutions and is highly dependent on the individual and institutional ownership and commitment by partners. The selection of pilot institutions helps ensure that activities initiated during the project, continue. All institutions involved in the project show a high level of ownership and appreciation for the infrastructure they received and the continuous curricula development (*Int_12*). Several departments transferred the newly acquired content development methodologies to other study programmes (*Int_25*). Commitment towards maintaining the equipment received exists; however, there are doubts if this would be financially feasible in all cases (FGD_6). In the special case of UZB, after re-joining the project in the last year of the project, evidence shows that key partners, such as the ministry, show high commitment in implementing recommendations regarding practically oriented training due to overlaps in new laws concerning educational structures (Int_20). Programmes in UZB remain challenging, as the content created for the study programmes is currently only available in Russian. Many colleges and HE institution in the region teach in the Uzbek language, therefore this language barrier may hinder potential widespread impacts resulting from the project (Int_20). However, new initiatives from the UZB Government aim to strengthen vocational education in the country and more support to HE institutions by training more teachers and establishing so-called 'production clusters'. These initiatives give hope for sustaining project results aligned with new government policies. The crucial role of establishing the institute for further training is important in supporting capacity building and development of methodologies in future. A commitment of the Ministry of Education to introduce the credit system widely under the Bologna process initiative would allow for building stronger teaching programs developed with the support of the project. The Agrarian University, being advanced in the education process and located in the capital city, acts as a coach for institutions in Bukhara and Khujand in developing training for teachers and improving the educational process. This means training programs developed during the project could be used by partner countries in their national curriculum. The experience and competencies of the partner institutions could be used by the UZB education system for further dissemination to other educational institutions.

Evaluation Dimension 1 of 'sustainability' receives 40/50 points.

Evaluation dimension 2: 'Forecast of durability: results of the project are permanent, stable and long-term resilient'

The outcomes of the project have led to several indications that the results are durable and resilient. The following section shares anecdotal examples that were the result of the most significant change exercise, organised by output area.

Under output A, there was evidence that recommendations resulting from the regional dialogues were adopted by different countries. In TAJ inputs received from the dialogues were fed into updates on the national education law (Int_17). All partner governments confirmed to have made use of lessons learned to leapfrog mistakes made by other countries (Int_17, Int_20).

In output area B, different stakeholders confirmed that the development, implementation and approval of study programmes are sustainable in the long-term. This yields true for the BSc. and MSc. programmes implemented because of the project. However, the project was unable to finalize content and procedures for implementing a M.Ed and PhD. Completing these programmes is an inherited task for the new project. Despite the fact that academic mobility programmes enjoy high appreciation by all partners involved the future of exchange visits are at risk until their financial resources are secured. Several institutions raised the concern that they do not have financial means to participate in exchange programmes without external support (*Int_1, Int_16*). The follow-up project's strategy is to continue supporting the programme but downsizing the financial support provided by the project.

In output area C, evidence found that new skills developed through additional training of teachers are shared within educational institutions. Some participating organizations had internal processes to share knowledge and share experiences among colleagues (*FGD_2*), while others created instructional manuals to share the knowledge gained with other teachers (*FGD_6*). However, no systematic approach has institutionalized subject-specific teachers' training at a national level due to insufficient commitment and resources from national governments.

In output area D, sporadic collaborations plan to continue between education and the private sector. However, in the case of the CTTEEs, an increased collaboration by the private sector is required, as they do not possess sufficient institutional structures to ensure their sustainability once the project ends (*Int_3*).

In summary, different stakeholders perceived the challenges of the sustainability of the projects in different ways. Some pointed out the structural risks, such as low salaries for teachers in Central Asia and the potential that companies recruit well-qualified teachers to join their staff, as well as expected risks, such as high staff turnover (*Int_9*) and subsequent loss of knowledge or institutional memory. Educational institutions who have successfully implemented new study programmes are facing the challenge of securing enough resources to renew the accreditation of the programmes. Lastly, looking at the delay of certain study programmes, the questions remains whether teachers can implement new study courses in the future without additional training once the project leaves (Int_9 with project team).

Evaluation Dimension 2 of 'sustainability' receives 35/50 points.

Overall assessment of sustainability

THe assessment found that the sustainability of the project is anchored in partner structures and through high levels of commitment and motivation by key actors. Nevertheless, capacity building require improvement to create higher synergies between single events and output areas. As a result, the first evaluation dimension received 40 out of 50 points. The overall sustainability of the project is uncertain. Specific outcomes of the project appear to be long-lasting and resilient, while a few will likely discontinue once the project stops as institutionalization of regional dialogues and training sessions has failed. Accordingly, the second evaluation received 35/50 points. To conclude this section, the project's sustainability was '*moderately successful'*.

Criterion	Assessment dimension	Score and Rating
Sustainability	Prerequisite for ensuring the long-term success of the project: Results are anchored in (partner) structures.	*40 out of 50 points*
	Forecast of durability: Results of the project are permanent, stable and long-term resilient.	*35 out of 50 points*
Overall Score and Rating	MODERATELY SUCCESSFUL	*Score: 75 out of 100 points* *Rating: 6-level-scale*

4.7 Key results and overall rating

Criterion	Score	Rating
Relevance	*85 out of 100 points*	Successful
Effectiveness	*67 out of 100 points*	Moderately successful
Impact	*85 out of 100 points*	Successful
Efficiency	*70 out of 100 points*	Moderately successful
Sustainability	*75 out of 100 points*	Moderately successful
Overall score and rating for all criteria	*76,4 out of 100 points* *Average Score of all criteria* *(sum divided by 5, max. 100 points see below)*	Moderately successful

100-point-scale (Score)	6-level-scale (Rating)
92-100	Level 1 = highly successful
81-91	Level 2 = successful
67-80	Level 3 = moderately successful
50-66	Level 4 = moderately unsuccessful
30-49	Level 5 = unsuccessful
0-29	Level 6 = highly unsuccessful

5. Conclusions and recommendations

5.1 Factors of success or failure

To facilitate learning from the outcomes of this evaluation, this section corroborates key factors of success and central weaknesses of the project. During the evaluation mission, it became evident that five success dimensions can be summarized. Efforts and positive achievements in these dimensions (which sometimes overlap) have the potential to leverage current achievements, mitigate current or future risks, or be applied to other similar projects.

Factors of success

- ✓ **Regional project approach:** The regionally based structure of the project, especially the dialoges and working groups, proved to be a successful approach in building networks across countries that jointly and effectively brought forth positive results. Project partners praised the importance of contextualization given the regionalization of the project.
- ✓ **Focus at operational level**: The focus on working with educational institutions in this project and the previous projects (2010-2019) was particularly successful and allowed opportunities to showcase advances and achievements. Anchoring the changes achieved was determined to be necessary.
- ✓ **Choice of partners and partnerships:** The project team collaborated with strong and committed partners. Partner institutions show high levels of motivation, willingness and readiness to collaborate at regional level. However, the selection of educational partner institutions was not always transparent.
- ✓ **Academic mobility as effective measure:** Establishing intensive regional exchange an effective way to bring actors from different countries closer together while strengthening the capacities of teachers and students across all project countries.
- ✓ **Inter-disciplinary team and efficient collaboration:** Members appear to complement each other with expertise and experience from different fields. In addition, there is good team spirit and support across regions. Regular exchange platforms via Skype enabled good communication and exchange.
- ✓ **Choice of CB activities and executing personnel:** According to all project beneficiaries, the effectiveness of trainings and CB measures was successful thanks to the above-average quality of trainers, innovative teaching methods and the selection of relevant content.

Similarly, hindering factors that weaken the project results and the achievement of the objective and overarching development results were identified.

Factors of weakness

- **Framework conditions in education:** Large variance in academic autonomy between countries. Levels of autonomy were high in KAZ and KGZ, and low in TAJ and UZB.
- **Unclear CTTEE design concept:** A clear design, vision and sufficient financial resources was missing when establishing the centres of technology. They are in project as sub-activity but require substantial resources and ownership and potentially overlap with the mandate of existing local institutions.
- **Changing working routine for curricula development:** Outsourcing the curricula development and implementation to a consultancy led to dissatisfactory results. Instead, the project should have built on existing success stories from previous projects instead of changing the established working routine.
- **Reduced responsibilities of national coordinators:** Weak involvement of national coordinators in project management decisions blocked closer relations to partners at national levels.
- **Insufficient usage of synergies:** Low synergies were found at two levels: (i) synergies between different project outputs could have been optimized (ii) synergies to other development actors should have been explored to maximize impacts.

- **Complexity of the project**: The project was active in four countries and operates within each country at two levels of education. The resulting complexity of the approach has made it difficult to achieve the expected results at each of the educational levels in each participating country.

5.2 Conclusions and recommendations

Considering that the follow-up to this project has already begun, recommendations stemming from this evaluation can improve the current project, in addition to the standard retrospective evaluation. Recommendations based on the previous sections in this report are divided into two sections. All recommendations are addressed to GIZ, and specific actors and stakeholders within GIZ.

Recommendations at project implementation

Recommendation 1: The provision of equipment must be accompanied by specific training to maximise the utilization of equipment/material. Additionally, providing corresponding text books/materials with the tools and infrastructure ensures their (long-term) use.

Recommendation 2: The project evaluation showed that TAJ and UZB lag behind the other countries, which threatens the potential for regional harmonization. Discussions revealed that KAZ and KGZ might orientate themselves towards other countries or regions in terms of academic exchange instead of TAJ and USB. TAJ and UZB must intensify their collaboration and promote more exchange with the other project partners to ensure the synchronization of progress across the four countries.

Recommendation 3: The project and its predecessors have accumulated valuable experiences and lessons learned in the past years. Yet, it appeared that due to staff turnover, knowledge management and internal learning processes require improvement. Communication of best practices and lessons learned should occur at a regional level to avoid mistakes made in other countries and internally to continue with best practices from previous projects.

Recommendation 4: Team members stated an enhancement of responsibilities of national coordinators could improve project implementation by streamlining processes. It is recommended that national coordinators and increase their participation in regional activities to facilitate a working relationship between coordinators and regional partners.

Recommendation 5: The project's management team must make better use of monitoring. It is recommended to better use data generated through monitoring for project steering and management to enable rapid and data-driven reactions toon indicator development. A project results-model or Theory of change could facilitate the communication of the project logic both internally and externally.

Recommendation for future project design and activities

Recommendation 6: The project should continue efforts in capacity building activities at the regional level in the subsequent project considering the need for more training for teachers and students. There is a high demand for further capacity building which also leads to positive unintended consequences such as network creation, horizon widening and mutual learning. Supporting the training institutions to make their training programs more practically oriented and relevant to the labour market needs is highly recommended. The institutionalisation of capacity building is required to ensure the maintenance of knowledge levels.

Recommendation 7: The current CTTE concept is unsustainable. Further consideration regarding their business plan, services, self-sufficiency and exit strategy is required, especially in relation to the existing technoparks in TAJ. If no self-sustaining model is feasible, eliminate the CTTE concept from the follow-up project.

Recommendation 8: Outcomes under output A proved to be very effective. Thus, regional dialogue and working group activities should be continued and strengthened. The effectiveness and popularity of these platforms and their practical support on steering the management of a project is indispensable for a successful

information and communication strategy with the constituents and main stakeholders of the project. It supports the creation of ‘project ownership’ by the main project partners.

Recommendation 9: Increase communication with other organisations operating in the same sector through donor coordination platforms or networks to avoid overlap, to promote information exchange and increase collaboration.

Annex

Annex 1 - Bibliography

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Annex 2 – Evaluation Matrix

	Assessment Dimension	Evaluation questions (pilot-phase, work in progress)	Evaluation indicator	Available data sources	Additional data collection	Evaluation strategy (evaluation design, method, procedure)	Expected evidence strength (narrative)
Relevance	**RELEVANCE (max. 100 points)**						
	The project concept* is in line with the relevant strategic reference frameworks. Max. 30 points	Which strategic reference frameworks exist for the project? (e.g. national strategies incl. national implementation strategy for 2030 agenda, regional and international strategies, sectoral, cross-sectoral change strategies, if bilateral project especially partner strategies, internal analysis frameworks e.g. safeguards and gender**)	Number/type of strategic reference frameworks	KAZ: State program for education development 2011-2020; National Strategy 2050 KGZ: National Strategy for Sustainable Development 2013-2017; Strategy for Education development 2012-2020 TJK: State strategy for development of national labour market 2020; National strategy for education development 2012-2020 UZB: National strategy for development 2017-2021		Secondary data analysis	Medium-strong
		To what extent is the project concept in line with the relevant strategic reference frameworks?	Comparison of objetives and goals between project and frameworks			Secondary data analysis, qualitative content analysis	Medium-strong
		To what extent are the interactions (synergies/trade-offs) of the intervention with other sectors reflected in the project concept – also regarding the sustainability dimensions (ecological, economic and social)?	Number /type of interactions with other sectors		Interviews	Secondary data analysis,	Medium-strong
		To what extent is the project concept in line with the Development Cooperation (DC) programme (If applicable), the BMZ country strategy and BMZ sectoral concepts?	Comparison of objetives and goals between project and BMZ documents	BMZ+EU strategies: Beruf bilding 2012; EU strategy: EU u. Zentralasien-eine partnershhaft fur die 2007		Secondary data analysis, qualitative content analysis	Medium-strong
		To what extend is the project concept in line with the (national) objectives of the 2030 agenda? To which Sustainable Development Goals (SDG) is the project supposed to contribute?	Comparison with relevant SDGs	Agenda 2030, project documents		Secondary data analysis	Medium-strong
		To what extend is the project concept subsidiary to parter efforts or efforts of other relevant organisatons (subsidiary and complementarity)?	Comparison between project and partner concepts	Partner documents, project concept; key partners	Interviews, discussions	Secondary data analysis	Medium-strong
	The project concept* matches the needs of the target group(s). Max. 30 points	To what extent is the chosen project concept geared to the core problems and needs of the target group(s)?	Perception of partners and target groups	Representatives of ministries; Project progress reports		Secondary data analysis, qualitative content analysis	Medium
		How are the different perspectives, needs and concerns of women and men represented in the project concept?	Perspectives of women and men are considered in project document	Project concept, progress report	Feedback reports from HCD events	Secondary data analysis	Medium-strong

		To what extent was the project concept designed to reach particularly disadvantaged groups (LNOB principle, as foreseen in the Agenda 2030)? How were identified risks and potentials for human rights and gender aspects included into the project concept?	Disadvantaged groups are considered in key project documents	Änderungsangebot: Skype interviews with MES			Medium-strong
		To what extend are the intended impacts realistic from todays perspective and the given resources (time, financial, partner capacities)?	Comparison current status and goals Preception partners	Representatives of ministries; Project progress reports		Secondary data analysis, qualitative content analysis	Medium-strong
	The project concept* is adequately designed to achieve the chosen project objective.Max. 20 points	Assessment of current results model and results hypotheses (theory of change, ToC) of actual project logic:- To what extend is the project objective realistic from todays perspective and the given resources (time, financial, partner capacities)?- To what extend are the activities, instruments and outputs adequately designed to achieve the project objective?- To what extend are the underlying results hypotheses of the project plausible?- To what extend is the chosen system boundary (sphere of responsibility) of the project (including partner) clearly defined and plausible? - Are potential influences of other donors/organisations outside of the project's sphere of responsibility adequately considered?- To what extend are the assumptions and risks for the project complete and plausibe?	Consistency, coherence and quality of results model	Project documents, progress reports to BMZ			Medium-strong
		To what extent does the strategic orientation of the project address changes in its framework conditions?	Changes in legislation Changes in project set-up	Progress reports, project team	Interviews, discussions	Secondary data analysis Qualitative content analysis	Medium-strong
		How is/was the complexity of the framework conditions and guidelines handled? How is/was any possible overloading dealt with and strategically focused?	Risks / bottlenecks outside the sphere of responsibility mentioned by project staff	Progress reports, project team	Interviews, discussions	Secondary data analysis Qualitative content analysis	Medium
	The project concept* was adapted to changes in line with requirements and re-adapted where applicable. Max. 20 points	What changes have occurred during project implementation? (e.g. local, national, international, sectoral, including state of the art of sectoral know-how)	Number/type of changes occured	Progress reports, project team	Interviews, discussions	Secondary data analysis Qualitative content analysis	Medium-strong
		How were the changes dealt with regarding the project concept?	Activities conducted to address changes	Progress reports, project team	Interviews, discussions	Secondary data analysis Qualitative content analysis	Medium
	Assessment Dimension	**Evaluation questions (pilot-phase, work in progress)**	**Evaluation indicator**	**Available data sources**	**Additional data collection**	**Evaluation strategy (evaluation design, method, procedure)**	**Expected evidence strength (narrative)**
	EFFECTIVENESS (max. 100 points)						

Effectiveness	The project achieved the objective (outcome) on time in accordance with the project objective indicators. max. 40 points	To what extent has the agreed project obective (outcome) been achieved (or will be achieved until end of project), measured against the objective indicators? Are additional indicators needed to reflect the project objective adequately?	Comparison current status and outcome indicators Perception of project team members Perception of key partners	Key partners (MoE, universities), project team members; monitoring data and respective sources	Interviews, focus group discussions	Mixed-methods, data triangulation	Medium
		To what extent is it foreseeable that unachieved aspects of the project objective will be achieved during the current project term?	Perception of key partners, perception of project team members	Key partners (MoE, universities), project team members; monitoring data and respective sources	Interviews, focus group discussions	Mixed-methods, data triangulation	Medium
	The activities and outputs of the project contributed substantially to the project objective achievement (outcome). max. 30 points	To what extent have the agreed project outputs been achieved (or will be achieved until end of project), measured against the ooutput indicators? Are additional indicators needed to reflect the outputs adequately?	Comparison current status and output indicators Perception of project team members Perception of key partners Number of products presented to partner	Reports and certificates of partner institutions; partners and target groups/beneficaries	Interviews, focus group discussions	Contribution Analaysis	Medium
		How does project contribute via activities, instruments and outputs to the achievement project objective (outcome)? (contribution-analysis approach)	Evidence for fulfillment of results hypothesis is established	project team and key partners; monitoring documents	Interviews, focus group discussions, MSCT	Contribution Analaysis	Strong
		Implementation strategy: Which factors in the implementation contribute successfully to or hinder the achievement of the project objective? (e.g. external factors, managerial setup of project and company, cooperation management)	Underlying factors for results hypotheses	project team and key partners; monitoring documents	Interviews, focus group discussions	Contribution Analaysis	Medium
		What other/alternative factors contributed to the fact that the objective was achieved or not achieved?	Alternative factors explained	BMZ representative, GIZ Cluster coordinator	Interview	Contribution Analaysis	Medium
		What would have happened without the project?	Counterfactual situation	BMZ representative, GIZ Cluster coordinator; university and institutes	Interviews, focus group discussions, MSCT	Contribution Analaysis	Strong
		To what extent have risks (see also Safeguards & Gender) and assumptions of the theory of change been addressed in the implementation and steering of the project?	Explanation on managemen tof risks	Project team; other agencies	Interviews, focus group discussions	Mixed-methods, data triangulation	Strong
	No project-related negative results have occured – and if any negative results occured the project responded adequately. The occurrence of additional (not formally agreed) positive results has been	Which negative or positive unintended results does the project produce at output and outcome level and why?	Additional outcomes identified	Project team, partners, target group	Interviews, focus group discussions, MSCT	Mixed-methods, data triangulation, participatory exercise	Strong
		How were risks regarding unintended negative results at the output and outcome level assessed in the monitoring system (e.g. compass)? Were risks already known during concept phase?	Risk management and monitoring	Monitoring documents and data on risks and unintended	Interviews, focus group discussions, MSCT	Mixed-methods, data triangulation	Medium

	monitored and additional opportunities for further positive results have been seized. max. 30 points	What measures have been taken by the project to counteract the risks and (if applicable) occured negative results? Inhowfar were these measures adequate? To what extend were potential unintended positive results at outcome level monitored and exploited?	risk mitigation measures	Progress reports, project team	Interviews	Mixed-methods, data triangulation	Medium
			Risk management and monitoring	Monitoring documents, data from the Wirkungsmonitor; documentation of positive results	Interviews	Mixed-methods, data triangulation	strong
	Assessment Dimension	**Evaluation questions (pilot-phase, work in progress)**	**Evaluation indicator**	**Available data sources**	**Additional data collection**	**Evaluation strategy (evaluation design, method, procedure)**	**Expected evidence strength (narrative)**
	IMPACT (max. 100 points)						
Impact	The intended overarching development results have occurred or are foreseen.* Max. 40 points	To which overarching development results is the project supposed to contribute (cf. module and programme proposal, if no individual measure; indicators, identifiers, link to national strategy for implementing 2030 Agenda, link to SDGs)? Which of these intended results at the level of overarching results can be observed or are plausible to be achieved?	Overarching development results the project is contributing to	Databases (governmental, UN/UNDP donor platforms); WZ Referent (BMZ), Civil servants; mational strategies, reforms; CA Strategy, BMZ agenda 2030	Interviews	Qualitative content analysis	very strong
		Target group and 'Leave No One Behind' (LNOB): Is there evidence of results achieved at target group level/specific groups of population? To what extent have targeted marginalised groups (such as women, children, young people, the elderly, people with disabilities, indigenous peoples, refugees, IDPs and migrants, people living with HIV/AIDS and the poorest of the poor) been reached?	Degree of contribution at target group levell; Perception of partners on impact for final beneficiaries	program documents (angebot, results model), monitoring data; but mostly not applicable	interviews, focus group discussions, MSCT	Qualitative content analysis	very strong
	The outcome of the project contributed to the occured or forseen overarching development results.* Max. 30 points	To what extent is it plausible that the results of the project on outcome level (project objective) contributed or will contribute to the overarching results? (contribution-analysis approach)	Contribution to Improved education, Contribution to equal opportunities		interviews, focus group discussions, MSCT	Contribution Analysis	
		What are the alternative explanations/factors for the results observed? (e.g. the activities of other stakeholders, other policies)	Alternative factors explained	MoES, beneficiaries, partners,	in-depth interview	Contribution Analysis	medium
		What would have happened without the project?	Counterfactual situation		interviews, discussions	Contribution Analysis	

		To what extent is the impact of the project positively or negatively influenced by framework conditions, other policy areas, strategies or interests (German ministries, bilateral and multilateral development partners)? What are the consequences of the project?	Influence of framework conditions	Ministries, WZ Referent, other donors	interviews, discussions	Contribution Analysis	medium
		To what extent has the project made an active and systematic contribution to widespread impact? (4 dimensions: relevance, quality, quantity, sustainability; scaling-up approaches: vertical, horizontal, functional or combined)? If not, could there have been potential? Why was the potential not exploited?+C9:C13	Evidence for widesprad impact established	partner documents, program documents; ministries, universities and colleges	interviews, focus group discussions, MSCT	Contribution Analysis	medium
	No project-related negative results at impact level have occured – and if any negative results occured the project responded adequately. The occurrence of additional (not formally agreed) positive results at impact level has been monitored and additional opportunities for further positive results have been seized. Max. 30 points	Which positive or negative unintended results at impact level can be observed? Are there negative trade-offs between the ecological, economic and social dimensions (according to the three dimensions of sustainability in the Agenda 2030)? Were positive synergies between the three dimensions exploited?	Additional impacts identified; Synergies leveraged		interviews, focus group discussions, MSCT	Mixed-methods, data triangulation, participatory exercise	medium
		To what extent were risks of unintended results at the impact level assessed in the monitoring system (e.g. compass)? Were risks already known during the planning phase?	Degree of assessment ing monitoring tools		interviews, focus group discussions, MSCT	Mixed-methods, data triangulation, participatory exercise	medium
		What measures have been taken by the project to avoid and counteract the risks/negative results/trade-offs**?	Mitigation measures mentioned		interviews, discussions	Mixed-methods, data triangulation, participatory exercise	medium
		To what extent have the framework conditions for the negative results played a role? How did the project react to this?	Role of framework conditions in negative resukls		interviews, discussions	Mixed-methods, data triangulation, participatory exercise	medium
		To what extend were potential unintended positive results and potential synergies between the ecological, economic and social dimensions monitored and exploited?	Synergies of sustainability dimensions		interviews, discussions	Mixed-methods, data triangulation, participatory exercise	medium
	Assessment Dimension	**Evaluation questions (pilot-phase, work in progress)**	**Evaluation indicators (pilot phase, only available in german so far)**	**Available data sources**	**Additional data collection**	**Evaluation strategy (evaluation design, method, procedure)**	**Expected evidence strength (narrative)**
	EFFICIENCY (max. 100 points)						

Efficiency	The project's use of resources is appropriate with regard to the outputs achieved. [Production efficiency: Resources/Outputs] Max. 70 points	To what extent are there deviations between the identified costs and the projected costs? What are the reasons for the identified deviation(s)?	Das Vorhaben steuert seine Ressourcen gemäß dem geplanten Kostenplan (Kostenzeilen). Nur bei nachvollziehbarer Begründung erfolgen Abweichungen vom Kostenplan.	Efficiency documents; project team	Interviews	Secondary data analysis; data triangulation	medium (due to later-on cost allocation)
		To what extent could the outputs have been maximised with the same amount of resources and under the same framework conditions and with the same or better quality (maximum principle)? (methodological minimum standard: Follow-the-money approach)	Das Vorhaben reflektiert, ob die vereinbarten Wirkungen mit den vorhandenen Mitteln erreicht werden können.	Efficiency documents; project team	Interviews	Secondary data analysis; data triangulation	medium
			Das Vorhaben steuert seine Ressourcen gemäß der geplanten Kosten für die vereinbarten Leistungen (Outputs). Nur bei nachvollziehbarer Begründung erfolgen Abweichungen von den Kosten.	Efficiency documents; project team	Interviews	Secondary data analysis; data triangulation	medium
			Die übergreifenden Kosten des Vorhabens stehen in einem angemessen Verhältnis zu den Kosten für die Outputs.	Efficiency documents; project team	Interviews	Secondary data analysis; data triangulation	medium
			Die durch ZASS Aufschriebe erbrachten Leistungen haben einen nachvollziehbaren Mehrwert für die Erreichung der Outputs des Vorhabens.	Efficiency documents; project team	Interviews	Secondary data analysis; data triangulation	medium
		Focus: To what extent could outputs have been maximised by reallocating resources between the outputs? (methodological minimum standard: Follow-the-money approach)	Das Vorhaben steuert seine Ressourcen, um andere Outputs schneller/ besser zu erreichen, wenn Outputs erreicht wurden bzw. diese nicht erreicht werden können (Schlussevaluierung). Oder: Das Vorhaben steuert und plant seine Ressourcen, um andere Outputs schneller/ besser zu erreichen, wenn Outputs erreicht wurden bzw. diese nicht erreicht werden können (Zwischenevaluierung).	Efficiency documents; project team	Interviews	Secondary data analysis; data triangulation	medium
		Were the output/resource ratio and alternatives carefully considered during the design and implementation process – and if so, how? (methodological minimum standard: Follow-the-money approach)	Das im Modulvorschlag vorgeschlagene Instrumentenkonzept konnte hinsichtlich der veranschlagten Kosten in Bezug auf die angestrebten Outputs des Vorhabens gut realisiert werden.	Efficiency documents; project team	Interviews	Secondary data analysis; data triangulation	medium
			Die im Modulvorschlag vorgeschlagene Partnerkonstellation und die damit verbundenen Interventionsebenen konnte hinsichtlich der veranschlagten Kosten in Bezug auf die angestrebten Outputs des Vorhaben gut realisiert werden.	Efficiency documents; project team	Interviews	Secondary data analysis; data triangulation	medium

		Der im Modulvorschlag vorgeschlagene thematische Zuschnitte für das Vorhaben konnte hinsichtlich der veranschlagten Kosten in Bezug auf die angestrebten Outputs des Vorhabens gut realisiert werden.	Efficiency documents; project team	Interviews	Secondary data analysis; data triangulation	medium
		Die im Modulvorschlag beschriebenen Risiken sind hinsichtlich der veranschlagten Kosten in Bezug auf die angestrebten Outputs des Vorhabens gut nachvollziehbar.	Efficiency documents; project team	Interviews	Secondary data analysis; data triangulation	medium
		Die im Modulvorschlag beschriebene Reichweite des Vorhabens (z.B. Regionen) konnte hinsichtlich der veranschlagten Kosten in Bezug auf die angestrebten Outputs des Vorhabens voll realisiert werden.	Efficiency documents; project team	Interviews	Secondary data analysis; data triangulation	medium
		Der im Modulvorschlag beschriebene Ansatz des Vorhaben hinsichtlich der zu erbringenden Outputs entspricht unter den gegebenen Rahmenbedingungen dem state-of-the-art.	Efficiency documents; project team	Interviews	Secondary data analysis; data triangulation	medium
	For interim evaluations based on the analysis to date: To what extent are further planned expenditures meaningfully distributed among the targeted outputs?		Efficiency documents; project team	Interviews	Secondary data analysis; data triangulation	medium
The project's use of resources is appropriate with regard to achieving the projects objective (outcome).[Allocation efficiency: Resources/Outcome]Max. 30 points	To what extent could the outcome have been maximised with the same amount of resources and the same or better quality (maximum principle)?	Das Vorhaben orientiert sich an internen oder externen Vergleichsgrößen, um seine Wirkungen kosteneffizient zu erreichen.	Efficiency documents; project team	Interviews	Secondary data analysis; data triangulation	medium
	Were the outcome-resources ratio and alternatives carefully considered during the conception and implementation process – and if so, how? Were any scaling-up options considered?	Das Vorhaben steuert seine Ressourcen zwischen den Outputs, so dass die maximalen Wirkungen im Sinne des Modulziels erreicht werden. (Schlussevaluierung) Oder: Das Vorhaben steuert und plant seine Ressourcen zwischen den Outputs, so dass die maximalen Wirkungen im Sinne des Modulziels erreicht werden. (Zwischenevaluierung)	Efficiency documents; project team	Interviews	Secondary data analysis; data triangulation	medium

		Das im Modulvorschlag vorgeschlagene Instrumentenkonzept konnte hinsichtlich der veranschlagten Kosten in Bezug auf das angestrebte Modulziel des Vorhabens gut realisiert werden.	Efficiency documents; project team	Interviews	Secondary data analysis; data triangulation	medium
		Die im Modulvorschlag vorgeschlagene Partnerkonstellation und die damit verbundenen Interventionsebenen konnte hinsichtlich der veranschlagten Kosten in Bezug auf das angestrebte Modulziel des Vorhaben gut realisiert werden.	Efficiency documents; project team	Interviews	Secondary data analysis; data triangulation	medium
		Der im Modulvorschlag vorgeschlagene thematische Zuschnitte für das Vorhaben konnte hinsichtlich der veranschlagten Kosten in Bezug auf das angestrebte Modulziel des Vorhabens gut realisiert werden.	Efficiency documents; project team	Interviews	Secondary data analysis; data triangulation	medium
		Die im Modulvorschlag beschriebenen Risiken sind hinsichtlich der veranschlagten Kosten in Bezug auf das angestrebte Modulziel des Vorhabens gut nachvollziehbar.	Efficiency documents; project team	Interviews	Secondary data analysis; data triangulation	medium
		Die im Modulvorschlag beschriebene Reichweite des Vorhabens (z.B. Regionen) konnte hinsichtlich der veranschlagten Kosten in Bezug auf das angestrebte Modulziel des Vorhabens voll realisiert werden.	Efficiency documents; project team	Interviews	Secondary data analysis; data triangulation	medium
		Der im Modulvorschlag beschriebene Ansatz des Vorhaben hinsichtlich das zu erbringenden Modulziels entspricht unter den gegebenen Rahmenbedingungen dem state-of-the-art.	Efficiency documents; project team	Interviews	Secondary data analysis; data triangulation	medium
	To what extent were more results achieved through synergies and/or leverage of more resources, with the help of other bilateral and multilateral donors and organisations (e.g. Kofi)? If so, was the relationship between costs and results appropriate?	Das Vorhaben unternimmt die notwendigen Schritte, um Synergien mit Interventionen anderer Geber auf der Wirkungsebene vollständig zu realisieren.	Efficiency documents; project team	Interviews	Secondary data analysis; data triangulation	medium
		Wirtschaftlichkeitsverluste durch unzureichende Koordinierung und Komplementarität zu Interventionen anderer Geber werden ausreichend vermieden.	Efficiency documents; project team	Interviews	Secondary data analysis; data triangulation	medium

			Das Vorhaben unternimmt die notwendigen Schritte, um Synergien innerhalb der deutschen EZ vollständig zu realisieren.	Efficiency documents; project team	Interviews	Secondary data analysis; data triangulation	medium
			Wirtschaftlichkeitsverluste durch unzureichende Koordinierung und Komplementarität innerhalb der deutschen EZ werden ausreichend vermieden.	Efficiency documents; project team	Interviews	Secondary data analysis; data triangulation	medium
			Die Kombifinanzierung hat zu einer signifikanten Ausweitung der Wirkungen geführt bzw. diese ist zu erwarten.	Efficiency documents; project team	Interviews	Secondary data analysis; data triangulation	medium
			Durch die Kombifinanzierung sind die übergreifenden Kosten im Verhältnis zu den Gesamtkosten nicht überproportional gestiegen.	Efficiency documents; project team	Interviews	Secondary data analysis; data triangulation	medium
			Die Partnerbeiträge stehen in einem angemessenen Verhältnis zu den Kosten für die Outputs des Vorhabens	Efficiency documents; project team	Interviews	Secondary data analysis; data triangulation	medium
	Assessment Dimension	**Evaluation questions (pilot-phase, work in progress)**	**Evaluation indicator**	**Available data sources**	**Additional data collection**	**Evaluation strategy (evaluation design, method, procedure)**	**Expected evidence strength (narrative)**
	SUSTAINABLILITY						
Sustainability	Prerequisite for ensuring the long-term success of the project: Results are anchored in (partner) structures. Max. 50 points	What has the project done to ensure that the results can be sustained in the medium to long term by the partners themselves?	Perception of the partners	Members and protocols of the regional steering committee; accreditation documents	Interviews	Qualitative content analysis; data triangulation	medium-high
		In which way are advisory contents, approaches, methods or concepts of the project anchored/institutionalised in the (partner) system?	Degree of institutionalization of results	Curricula, study programs of educatonal programs	Interviews with teachers	Qualitative content analysis; data triangulation	high
		To what extent are the results continuously used and/or further developed by the target group and/or implementing partners?	Use of capacities gained, use of curricula draftet	Curricula, study programs of educatonal programs		Qualitative content analysis; data triangulation	high
		To what extent are resources and capacities at the individual, organisational or societal/political level in the partner country available (longer-term) to ensure the continuation of the results achieved?	improved competences of graduates and training participants	Graduates, employees, tachers	Interviews	Qualitative content analysis; data triangulation	medium-high
		What is the project's exit strategy? How are lessons learnt prepared and documented?	na (project continues)			Qualitative content analysis; data triangulation	
	Forecast of durability: Results of the project are permanent, stable	To what extent are the results (outcome and impact) of the project durable, stable and resilient in the long-term under the given conditions?	Quality of study programmes, degree of institutionalization, assessment of infrastructure	Political partners, management & staff; project proposal of follow-on module	Interviews	Qualitative content analysis; data triangulation	high

and long-term resilient. Max. 50 points	What risks and potentials are emerging for the durability of the results (outcome and impact) and how likely are these factors to occur? What has the project done to reduce these risks?	Perception of partners and GIZ team	Partners, GIZ team	Interviews	Qualitative content analysis; data triangulation	high

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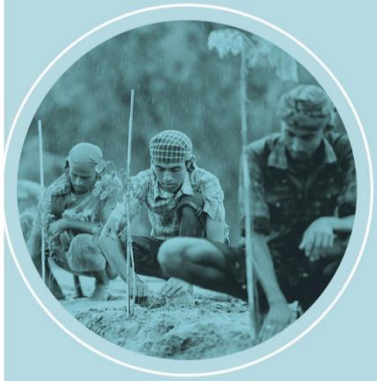

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