

External evaluation

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Strengthening of the Quality Infrastructure for Innovations in the Agricultural and Food Sector in Ethiopia

Country | Region: Ethiopia | Sub-Saharan Africa

Project number: 2019.0128.9
Implementation period: 01.2020 – 03.2024

Lead executing agency: Ethiopian Ministry of Agriculture (MoA)
Implementing partner institutions: MoA, MoTRI, EMI, IES, EAS, ECAE, ELA, EIAR, ARARI, BoAs, OSTA, agricultural input regulatory authorities and other agricultural sector organisations (acc. to Implementation Agreement, 12/08/2020)

PTB | Section: 9.35 Sub-Saharan Africa
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This evaluation is an independent assessment. Its contents reflect the assessor's opinion which is not necessarily equivalent to PTB's view.

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List of abbreviations

APIQTC	Animal Product and Input Quality Testing Center, former Veterinary Drug and Animal Feed Administration and Control Authority (VDFACA)
ARARI	Amhara Regional Agricultural Research Institute
BMEL	German Federal Ministry of Food and Agriculture / Bundesministerium für Ernährung und Landwirtschaft
BMZ	German Federal Ministry for Economic Cooperation and Development / Bundesministerium für wirtschaftliche Zusammenarbeit und Entwicklung
BoA	Bureau of Agriculture
BRICS	Acronym for Brazil, Russia, India, China, and South Africa
CD	Capacity development
Ch	Chapter
CRMs	Certified Reference Materials
CW	The Capacity WORKS management model
D	Dimension
DA	Development Agent (working at woreda level, living in the village)
DAC	Development Assistance Committee (of the Organisation for Economic Cooperation and Development)
DC	Development cooperation
DG	Director General
DQS	German Association for the Certification of Management Systems / Deutsche Gesellschaft zur Zertifizierung von Managementsystemen GmbH
EAA	Ethiopian Agriculture Authority
EAC	East African Community
EAS	Ethiopian Accreditation Service
ECAE	Ethiopian Conformity Assessment Enterprise
ECBP	Engineering Capacity Building Program
EFDA	Ethiopian Food and Drug Administration
EHPEA	Ethiopian Horticulture Producer Exporters Association
EIAR	Ethiopian Institute of Agricultural Research
ELA	Ethiopian Laboratory Association
EMA	Ethiopian Millers Association
EMI	Ethiopian Metrology Institute
ENAO	Ethiopian National Accreditation Office, now Ethiopian Accreditation Service (EAS)
EU	European Union
EUR	Euro
EVA	PTB staff members in charge of evaluations at 9.01
FAO	Food and Agriculture Organization of the United Nations

FSMS	Food safety management system, based on ISO 22000
GAP	Good Agricultural Practices
GC	Gas chromatography
GDP	Gross Domestic Product
GHP	Good Hygiene Practices
GIC	Green Innovation Centres for Food and Agriculture, Ethiopia, GIZ
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH
GMP	Good Manufacturing Practice
GTP	Growth and Transformation Plan
HACCP	Hazard Analysis and Critical Control Points
HARC	Holeta Agricultural Research Center
HQ	Headquarters
IDA	International Development Association
IEC	International Electrotechnical Commission
IES	Institute of Ethiopian Standards
ISFM+	Integrated Soil Fertility Management Project, GIZ
ISO	International Organization for Standardization
ISO 22000	International standards that specify the food safety management system (FSMS)
ISO/IEC 17025	General requirements for the competence of testing and calibration laboratories
iSTC	Intermittent Short-term Consultant
iSTE	Intermittent Short-term Expert
LC	Liquid chromatography
LC	Local Coordinator
M&E	Monitoring and evaluation
MM	Minutes of Meeting
MoA	Ministry of Agriculture
MoH	Ministry of Health
Mol	Ministry of Industry
MoST	Ministry of Science and Technology
MoTI	Ministry of Trade and Industry, now Ministry of Trade and Regional Integration (MoTRI) and Ministry of Industry (Mol)
MoTRI	Ministry of Trade and Regional Integration
MSMEs	Micro, small and medium enterprises
NQI	National Quality Infrastructure
NQIDP	National Quality Infrastructure Development Project (MoTRI / World Bank)
OARI	Oromia Agricultural Research Institute (also called IQQO, Institiitii Qorannoo Qonna Oromiyaa)
OECD	Organisation for Economic Co-operation and Development

OECD/DAC	Development Assistance Committee of the Organisation for Economic Cooperation and Development
OSTA	Oromia Science & Technology Authority
PA	Project Assistant
PAP	Promotion of Agricultural Productivity in Ethiopia
PC	Project Coordinator
Plc	Private limited company
PN	Project number
PT	Proficiency test
PTB	National Metrology Institute of Germany / Physikalisch-Technische Bundesanstalt
QI	Quality infrastructure
QMS	Quality Management System
RL	PTB Section Head
SDG	Sustainable Development Goal
SEWOH	Special Initiative “ONE WORLD – No Hunger” (BMZ), now Special Initiative “Transformation of Agricultural and Food Systems”
SF	Success factor
SME	Small and medium enterprise
SMS	Subject Matter Specialist
SNNPR	Southern Nations, Nationalities, and Peoples' Region
SSAP	Supporting Sustainable Agricultural Productivity in Ethiopia, GIZ (BMEL-funded)
STE	Short-term expert
TCM	Project Technical Committee Meeting
ToRs	Terms of Reference
ToT	Training of Trainers
UNIDO	United Nations Industrial Development Organisation
USD	United States Dollar
Woreda	Administrative district (Regional State – Zone – Woreda – Kebele)
WTO	World Trade Organization

1. Summary

The evaluation covers the project “Strengthening of the Quality Infrastructure for Innovations in the Agricultural and Food Sector in Ethiopia” (01/2020-03/2024, 2 million EUR). Funded by the German Federal Ministry for Economic Cooperation and Development (Bundesministerium für wirtschaftliche Zusammenarbeit und Entwicklung, BMZ) under BMZ’s special initiative “ONE WORLD – No Hunger”, the project was in its second phase. It started being closely aligned to the project “Green Innovation Centres for the Agriculture and Food Sector - Ethiopia” (GIC); since end of 2020, it is part of the German Technical Cooperation Programme “Promotion of Agricultural Productivity in Ethiopia” (PAP). The Covid 19 pandemic, different conflicts in Ethiopia, and the worsening security situation affected project implementation.

Objective of the evaluation was to assess the performance of the project covering its activities up to the time of the evaluation (Oct. 2023). The evaluation should contribute to accountability towards the donor, partner organizations and the general public. In addition, an important aspect of the evaluation was learning from experiences made and identifying recommendations for improvement.

The evaluation comprised secondary data analysis, an inception report, and 17 Zoom interviews with important stakeholders before the five-day data collection in Ethiopia. In Addis Ababa and Oromia Regional State northwest and northeast of Addis, 20 interviews with different stakeholders were conducted. Other project areas could not be visited due to the state of emergency in Amhara Regional State and security concerns in Oromia Regional State. After discussing their findings, drawing conclusions, and developing recommendations, the evaluation team presented the evaluation results at a Debriefing Workshop for validation to project partners.

Assessment according to the OECD/DAC criteria

Criterion	Evaluation of the criterion
1. Relevance	1.8
2. Coherence	2.0
3. Effectiveness	2.3
4. Efficiency	2.0
5. Impact	2.0
6. Sustainability	2.3
Global assessment	2.1

- Since effectiveness, impact or sustainability were rated "4" or worse, the global assessment is downgraded to "4" although the mean would actually be better than "4".
- No downgrading of the global assessment.

Relevance	The project is highly relevant as it addresses the vital aspects of the Ethiopian economy. It is in line with Ethiopian policies and international practices and considers priorities of the partners and the BMZ. The project did not specifically consider the female part of its target groups which is seen as short-coming in
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	<p>project design and lacks plausibility at project objective level (increased use of QI services). The project design has responded appropriately to changed conditions (Covid 19, conflicts in the country).</p> <p>Mark: 1.8</p>
Coherence	<p>Within German development cooperation, the project was designed in a complementary way, however, potential synergies could have been leveraged to a larger extent. The project is in line with international and national norms and standards to which German development cooperation is committed (e.g., fighting poverty, building peace and realising democracy, protecting the environment, consistency with anti-corruption statutes and human rights conventions); however, it did not consider the reduction of gender-specific inequalities, which has always been an important cross-cutting issue in German development cooperation. Project design complement the partners' own efforts and other donors' activities (e.g., NQIDP) well, but project implementation insufficiently considered other donors' activities. There are no common systems used for M&E, learning, and accountability – together with partners, other donors, or international organisations.</p> <p>Mark: 2.0</p>
Effectiveness	<p>The project has achieved its objective (at outcome level) or is expected to achieve them at the end of the project. The project's activities, inputs and outputs have considerably contributed to achieving the project's objective (at outcome level); however, less trainings of trainers were conducted, and trained trainers were not sufficiently supported to integrate their new knowledge into their daily work (Output 3: stakeholder awareness). The quality of project steering and implementation insufficiently supported achieving the intervention's objective at outcome level. Some of the risk-mitigation measures identified in the project proposal did not realize.</p> <p>Mark: 2.3</p>
Efficiency	<p>The project's use of resources is deemed reasonable regarding its outputs as well as its outcomes achieved. However, the project insufficiently used chances for improvement through constant reflection and evaluation of experiences made.</p> <p>Mark: 2.0</p>
Impact	<p>Due to the results achieved by the project higher-level development changes have taken place or are expected to take place, such as increased income and employment at small and medium enterprises (SME) level, increased exports and foreign exchange availability, increased food security, improved food safety, improved health (aflatoxin, pesticide residues), increased international reputation of research results, improved adaptation to climate change, and environmental benefits. The intervention has not contributed to unintended positive or negative higher-level development changes. However, at farmer level, less higher-level development changes than originally expected will arise. Also, project activities have not been used as models to achieve broad-based impact (e.g., quality systems for SMEs, training of trainers (ToTs) for SMEs and SMS/DAs).</p> <p>Mark: 2.0</p>

Sustainability	<p>Capacities required to ensure sustainability of project results have increased at the levels of partner organizations and target groups (except for farmers) due to the different project measures. Under the prevailing framework conditions, the results of the intervention are durable for the seven SMEs and public enterprises, but not for farmers and public laboratories.</p> <p>Mark: 2.3</p>
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2. Introduction

Project	Strengthening of the Quality Infrastructure for Innovations in the Agricultural and Food Sector in Ethiopia
Project period	01/2020-03/2024
Project budget	2,000,000 EUR
Evaluation period	01/2020-10/2023

Funded by the German Federal Ministry for Economic Cooperation and Development (Bundesministerium für wirtschaftliche Zusammenarbeit und Entwicklung, BMZ) under BMZ's special initiative "ONE WORLD – No Hunger", the project "Strengthening of the Quality Infrastructure for Innovations in the Agricultural and Food Sector in Ethiopia" is in its second phase. It started being closely aligned to the project "Green Innovation Centres for the Agriculture and Food Sector - Ethiopia" (GIC); since end of 2020, it is part of the German Technical Cooperation Programme "Promotion of Agricultural Productivity in Ethiopia" (PAP).

The evaluation was conducted by Dr. Christine Martins, freelance rural development consultant based in Berlin, Germany, as Key Evaluator and Dr. Franz Hengstberger, quality infrastructure expert engaged since 2016 in Ethiopia, as Technical Evaluator.

Objective of the evaluation was to assess the performance of the project covering the full range of activities since its start in January 2020 up to the time of the evaluation. The evaluation should contribute to accountability towards the donor, partner organizations and the general public. In addition, an important aspect of the evaluation was learning from experiences made and identifying recommendations for improvement – for the remaining five months of the present project. Also, future projects of the partner organizations and PTB may benefit from the evaluation results. There were three specific evaluation questions, (1) on a national soil proficiency testing programme which was set up by the predecessor project, (2) on gender mainstreaming, and (3) on political attentiveness.

The evaluation comprised desk research (19/07-20/10/2023) with frequent feedback with the PTB Project Coordinator (PC) and the Local Coordinator (LC), submission of an inception report (12/09/2023), and 17 Zoom interviews with important stakeholders (09-19/10/2023). The five-day data collection in Ethiopia (23-27/10/2023) started with a half-day Kick-off Workshop with relevant partners in Addis Ababa for participatory project evaluation (for results, see Annex 5). Afterwards, the evaluation team conducted 20 interviews with different stakeholders in Addis Ababa and Oromia Regional State northwest and northeast of Addis. Other project areas could not be visited due to the state of emergency in Amhara Regional State and security concerns in Oromia Regional State. The next two days, the evaluation team discussed their findings, drew conclusions, and developed recommendations and presented the results of their discussion at a Debriefing Workshop for validation to project partners (30/10/2023, see Annex 6). The schedule of the evaluation, the list of contact persons and of references used is attached as Annex 3.

3. Framework conditions and strategic approach of the project

3.1. Framework conditions

Agriculture remains an important part of Ethiopia's economy, accounting for around 40% of the gross domestic product (GDP), an estimated 75% of the country's workforce, and around 80% of exports, which brings in much-needed foreign currency. Ethiopia's agricultural exports are primarily

unprocessed commodities, including coffee, oil seeds, pulses, live plants, and cut flowers. Even though agriculture is of such high macroeconomic importance, the contributions of agriculture and of the processing sector to Ethiopia's economic growth has decreased during the past few years.

On the one hand, this is due to the fact that agriculture is mainly done as subsistence farming implemented by small family farms, with comparably low productivity and considerable post-harvest losses. On the other hand, processing and post-processing of agricultural raw materials barely meets international requirements, which particularly affects the competitiveness of small and medium enterprises (SMEs). The reasons for this are a generally low awareness of quality both for producers and for consumers, which leads to the fact that available quality standards can hardly be met.

Agricultural production and processing methods are generally not much developed and are only insufficiently based on good agricultural practices. The range of QI services provided for agricultural production and processing does neither meet the current nor the future needs that will arise in Ethiopia as a result of increased production and value creation. Besides the insufficient access to QI services, value chain stakeholders are insufficiently aware of the relevance of quality-assurance services (core problem). Production of agricultural inputs (certified seed, fertilizers) and their correct application (e.g., based on reliable soil analyses) need quality-assurance measures. Laboratory analyses are insufficiently available, e.g., for nutrient content of soils, ingredients and contamination of plants and agricultural products such as analyses for mycotoxins, as well as for seed inspections for certification. Also, there is a lack of reliable measuring instruments, e.g., to weigh and measure the moisture content of produce for storage and trade. Even though in the processing sector, awareness about quality issues is higher than in the agricultural production sector, implementation of quality-assuring measures is often not sufficient, such as compliance with legal requirements and standards for product characteristics or equipment and working methods of laboratories of processing companies. This, in turn, influences the market position of agricultural products from Ethiopia – in the country as well as internationally.

To overcome the shortcomings in quality assurance, laboratory performance, and stakeholder awareness, the project aims at increasing the use of quality infrastructure (QI) services which, in turn, are expected to contribute to the application of quality-related innovations in the selected project regions and value chains of the agricultural and food sector in Ethiopia. These innovations in the agriculture and food sector, in turn, will contribute to sustainable rural development in the selected rural areas.

However, it should be noted that QI awareness at political levels has increased in the last few years; political support for QI is at present higher than it was in the past. The present Prime Minister knows well about QI as he has been, from 2015 to 2016, Minister of Science and Technology and responsible for quality infrastructure. In the newly formed Ministry of Trade and Regional Integration (MoTRI), in March 2021, a new position of a State Minister for Quality Infrastructure Assurance was created, and the former Director General of the Institute of Ethiopian Standards (IES) was appointed for that position. The government's support of QI is also visible in the 50 million USD loan for the National Quality Infrastructure Development Project (NQIDP, Worldbank; 2017-2024; targeted sectors are leather and leather products, textile and garments, and agro-processing). The NQIDP funds were mostly used for strengthening institutional capacity for national quality infrastructure development and for enhancing private sector engagement. Additional funds (directly from the Government budget) were used for new laboratory and administration buildings for the core NQI Institutions (IES, ECAE, EMI and EAS). This is expected to improve accessibility to QI services in the coming years. For PTB supporting QI in the agricultural and food sector, conditions will improve, and the present positive momentum should be actively utilized.

Central changes to the framework conditions which occurred during the project period were the restructuring of the Ethiopian government structure (new ministry structure, new mandates, and new names of many government institutions; NOTE: the evaluation report uses the present names only). For example, the Ministry of Trade and Industry (MoTI) that was responsible for the QI institutions was reorganized into the Ministry of Trade and Regional Integration (MoTRI, now responsible for QI) and the Ministry of Industry (MoI). Three of the four NQI institutions changed their names, and several MoA directorates became autonomous federal government organs having own legal personalities, accountable to the Ministry of Agriculture, such as the Ethiopian Agricultural Authority (EAA) in charge of regulating the agricultural sector. Also, the Ethiopian Food and Drug Authority (EFDA) was established as an autonomous federal government body with own legal personality, accountable to the Ministry of Health (MoH).

These changes did not require reaction by the project as the persons with whom PTB had long-standing relations moved into the new institutions. However, the Covid 19 pandemic, the different conflicts in Ethiopia, and the worsened security situation seriously affected project implementation. Technical Committee Meetings could not be conducted as planned, international experts had to provide their advice online, and training events had to be cancelled at short notice.

Changes within the agricultural and food sector were climate change requiring adjusted agricultural production systems, a policy shift from food security to food system transformation, government programmes promoting irrigated wheat, and increased attention to export commodities to overcome the country's shortage in foreign exchange. Global changes were the Russian war in Ukraine, Ethiopia's membership of BRICS, as well as its active involvement in the WTO accession process.

3.2. Strategic approach of the intervention

The strategic approach of the project comprises advice and capacity building as well as, to a limited degree, provision of material equipment. There are two PTB project staff based at PTB headquarters in Braunschweig/Germany (Project Coordinator, PC; Project Assistant, PA), supported in Ethiopia by a Local Coordinator (LC) who is PTB Consultant. Further, intermittent short-term experts (iSTE), as well as international and local technical experts support the project.

The "theory of change" consists of three outputs (quality assurance, laboratory performance, stakeholder awareness) which lead to the achievement of the project objective, which is an increased use of QI services which contributes to the application of quality-related innovations in the selected project regions and value chains of the agricultural and food sector in Ethiopia. For further details, see Annex 2 which comprises the results matrix from the project proposal as it has been translated by PTB according to its offer to BMZ of Sep 2019.

Originally, it was planned that the PTB project contributed towards the objective of the Green Innovation Centres – Ethiopia (GIC) Project: "Innovations in the agricultural and food sectors have contributed to a sustainable rural development in selected rural regions of Ethiopia". However, after restructuring German development cooperation (DC) in Ethiopia, end of 2020, the GIC and the PTB projects as well as other German technical and financial DC projects in Ethiopia became part of the new DC programme "Promotion of Agricultural Productivity in Ethiopia" (PAP), in the sector of rural development. The different projects contribute to the objective of the programme which is "The income and employment situation of Ethiopia's rural population is sustainably improved through increased agricultural productivity and the development of MSMEs in the upstream and downstream sectors". (MSMEs are micro, small, and medium enterprises).

Annex 1 contains the intervention logic as required by PTB in evaluation reports, (a) from the project proposal, when the project aimed at contributing to the overall goal of the GIC Project, and (b) from Project Report No. 1 after the project had been integrated into the PAP Programme. At the time of the evaluation, the PTB project contributed to the achievement of two of the four PAP Programme Objective Indicators, No. 1, increased income in agriculture, and No. 3, increased sales revenues of SMEs. At present, the structure of German DC in Ethiopia is again revised, and a new German DC programme is under preparation.

4. Evaluation methodology

4.1. Evaluation design

The evaluation approach comprised mainly qualitative methods of data collection and analysis; quantitative methods were used for questionnaire surveys and for assessing the project indicators. A few participatory methods were applied during the Kick-off and the Debriefing Workshop.

Evaluation methods were:

- Secondary data analysis, e.g., of project documents, data available on the internet,
- Key informant interviews,
 - (a) before the stay in Ethiopia, 17 Zoom interviews with selected key informants which could not be met during the evaluation in Ethiopia (PTB, GIZ, EMA, HARC, see Annex 3.2.1),
 - (b) 20 interviews in Ethiopia (MoA, Amhara Regional Bureau of Agriculture, EAA, EIAR, MoTRI, EMI, IES, ECAE, NQIDP, OSTA, OARI, APIQTC, HARC, ELA, Bless Agri-food Laboratory Services Plc, Booez Food Complex Plc, Yamrot Food Complex, PTB consultants for laboratories and SMEs, see Annex 3.2.2),
- Questionnaire surveys (see Annex 4),
 - (a) on the Capacity WORKS management model for PCs and LC (iSTE did not react),
 - (b) on gender mainstreaming, and
 - (c) on the OECD/DAC criteria and the Capacity WORKS factors (project management),(b) and (c) for partners participating at the Kick-off Workshop of the evaluation (see Annex 5).
- Kick-off Workshop with key partners for introducing the evaluation and data collection (e.g., conducting a participatory evaluation, i.e., workshop participants evaluate the project according to key questions, see Annex 5),
- Participant observation in quality infrastructure (QI) institutions, laboratories, and SMEs,
- Assessment of products produced with the support of the project, e.g., concepts, standards, workplans, training modules, as well as information and awareness creation materials,
- Debriefing Workshop to present, discuss and, where appropriate, adjust the preliminary findings, conclusions, and recommendations of the evaluation (see Annex 6),
- Triangulation of data and methods.

The appointments with the interview partners in Ethiopia were made by Mr. Kassegne Kebede, Local Coordinator (LC), PTB consultant. He also introduced the evaluation team to the different stakeholders but did not attend interviews to allow unbiased answers.

After the phase of data collection, the two consultants analysed their data and discussed their assessments, drew conclusions, and developed recommendations. The final analysis was to be conducted during the report writing and review of documents and interview notes. Thus, the results presented at the Debriefing Workshop were only preliminary, as was explained to the participants, and, accordingly, Annex 6 does not present final version of evaluation findings and recommendations.

Strengths of the evaluation: The two evaluators complemented each other very well. They got a relatively complete picture of the project by triangulation of data and methods. The methodology chosen made optimal use of the short time available in Ethiopia. Despite severe time limitations, the evaluation team managed to discuss issues of concern with the State Minister of Quality Infrastructure and Assurance Services of MoTRI.

Limitations of the evaluation: Project areas could not be visited due to security concerns in Oromia and the state of emergency prevailing in Amhara. Zoom discussions with the Bureaus of Agriculture concerned failed due to network failure, but it was possible to have a half-hour telephone interview with the Amhara Bureau of Agriculture. The interview with the Director of the Natural Resource Management Directorate of EIAR in charge of HARC (specific evaluation question No. 1) could not take place as he was on mission abroad. The three specific evaluation questions overloaded the short time available for the evaluation. Each of them would have required a separate short-term assignment.

4.2. Data sources; data quality

The sources of the data upon which the analysis and assessment of the results are based are the PTB project team (for project documents, a digital “PTB box” was installed), the internet (e.g., all documents of the NQIDP are available for download at the World Bank website), the information provided during the Kick-off Workshop (questionnaires, participatory evaluation) and by interview partners as well as during the visits of the different institutions, offices, enterprises and laboratories. The sample of interviewees was comprehensive, with the exception of the project areas in the regional states of Amhara and Oromia and the EIAR officer responsible for HARC.

Some of the documents provided were in tracking mode; it appears that final versions are not available for all reports or that the data filing system does not allow them to be found (file names!).

The quality of the project’s results-based monitoring is assessed as sub-optimal. It is not regularly updated and does not appear to be used as a project management tool, e.g., for project steering.

The project team had not produced a stakeholder map or analysis. It took the key evaluator several days of reading, internet search and discussion with the project team and the Technical Evaluator to understand the stakeholder landscape. Also, other persons interviewed had criticized the lack of a stakeholder map.

5. Evaluation results

5.1. Status of the transformation process (OECD/DAC)

For the assessment of the success of the project according to the OECD/DAC evaluation criteria the structure provided by PTB is used. For each criterium, the different dimensions are stated, followed by the assessment of the evaluation team and its grading (1-6; see below) and an evidence-based justification of the assessment.

Marking scale for the evaluation of the OECD/DAC criteria

Evaluation	Grade	Description
very successful	1	very good result, far above expectations
successful	2	good result, entirely meets expectations

successful to a limited extent	3	satisfactory; results are below expectations, but mainly positive
rather unsuccessful	4	unsatisfactory result; below expectations; negative results prevail despite several positive results
mainly unsuccessful	5	negative results clearly prevail despite several positive partial results
entirely unsuccessful	6	the project has failed completely; situation has rather deteriorated

5.1.1 Relevance

Dimension 1: The intervention’s design is geared to country-specific, regional, and global policies and priorities of the partners and the BMZ.

The project is geared well to the partners’ policies and priorities and considers political and institutional framework conditions to a high degree. The project is well tailored to the German DC program and is well in line with the BMZ’s sectoral concepts. Grade: 1.

The project considers the following relevant policies and strategies:

Partner level: (1) Growth and Transformation Plan (GTP II, 2015/16-2019/20), in which the requirements of the 2030 Agenda have been integrated, (2) Draft Revised Agriculture and Rural Development Policy (2020), (3) Agriculture Sector 10 Years Perspective Plan (2021 –2030), (4) The “10 in 10” National Programs focusing on raising production and productivity levels of priority commodities.

German DC/BMZ level: (1) BMZ, 2004: Qualitätsinfrastruktur, Konformitätsbewertung – Messen, Normen, Prüfen, (2) BMZ, 2017: German strategy for Aid for Trade "Free and fair trade as a driver for development", (3) BMZ, 2022: BMZ-Kernthemenstrategie: „Leben ohne Hunger – Transformation der Agrar- und Ernährungssysteme“.

The project supports all relevant policies. It is unique in that way that it links quality infrastructure with the agricultural and food sector which is highly relevant to support Ethiopia in its efforts to increase agricultural productivity, to improve food security, and to increase exports of agricultural commodities for gaining foreign exchange. It supports important value chains (wheat, legumes, honey) and tackles the problem of insufficient use of QI services from three different angles – quality assurance, laboratory performance, and stakeholder awareness. In line with the relevant German DC concepts, it enables the Ethiopian institutions to improve their services in the QI and agri-food sector.

Dimension 2: The intervention’s design is geared to the needs and capacities of the target groups.

Project objectives are well aligned with the development needs and capacities of the target groups involved; however, women were insufficiently considered which is seen by the consultants as short-coming in project design. Grade: 2.

According to the project proposal, target groups of the project are QI institutions and users of QI services in the value chains wheat, legumes, and honey in Arsi and West Gojam Zone, i.e., small- and

medium-sized enterprises (SMEs) of the agri-food sector, smallholder family farms that apply quality assurance measures, agricultural extension service providers (Development Agents, DAs) and the trade sector.

The project objective – increased use of QI services - tackles Ethiopia's urgent need to take measures to improve agricultural and food product quality – for consumption within the country as well as for future export. It enables players at different levels (individuals, groups, organizations) to improve their standards and increase their incomes.

However, the project's objectives and design did not sufficiently consider needs and capacities of women. QI services were thought to be designed in such a way that they were, in principle, available to the entire population of the country. Men and women were intended as equal users of QI services ignoring that women may be restricted in their access to services and/or rights. Specific needs of women were not considered, there were no gender-specific activities, trainings participant lists even did not collect male/female information. For further information, see Chapter 6, specific evaluation question No. 2.

Dimension 3: The intervention's design is appropriately, realistically and plausibly geared towards achieving the intervention's objective.

The project concept is appropriate and realistic, it contributes to sustainable development, but the results matrix has some shortcomings. Grade: 3.

The project concept is very suitable from a technical, organizational, and financial point of view and its implementation has been realistic. All relevant stakeholders were involved, their capacity was expected to increase during the project, and PTB was able to fill essential gaps which otherwise could not be filled, such as the provision of certified reference materials (CRMs) and funding the participation in proficiency tests (PTs). Through its support of the development of quality infrastructure, the project contributed to the improvement of the framework conditions for economic, social, and environmentally friendly action (sustainable development).

Annex 1 contains the intervention logic of the project, Annex 2 the results matrix. The project's results matrix lacks plausibility to some degree as none of the three outcome indicators is suitable to quantify the level of achievement of the project objective (for further details, see Chapter 5.1.3, D1).

Furthermore, the project objective – increased use of QI services – is at a level which is beyond the direct reach of the project, beyond its direct sphere of responsibilities (attribution gap); thus, activities and outputs are not plausibly geared towards achieving the project objective.

Dimension 4: The intervention's design has responded to changes in the environment and adapted to the needs.

The intervention's design has responded very appropriately to changes in the environment and adapted to the needs. Grade: 1.

Most important changes in the project's environment to which the project had to adapt were the Covid 19 pandemic as well as Ethiopia's conflicts and worsening security situation. Regarding Covid 19, the project adjusted its design in that PTB staff, the iSTE and international short-term experts (STE) worked for more than two years on a remote basis. Also, the project's Technical Committee Meetings (TCM) were held remote during that time (05/11/2020, 18/11/2021). Ethiopia's conflicts and the worsening security situation demanded flexible reaction, e.g., cancelling activities on short notice when the security situation did not allow implementation, supporting the Dessie Seed Lab which had

been destroyed in the war. Another example for the project’s flexible reaction on needs arising is the laboratory analysis of honey for MoA, EAA, and the Ethiopian Honey and Beeswax Producers and Exporters Association to fulfil the EU Honey Residue Monitoring Plan in Germany in 2022.

Summarized evaluation

The project is highly relevant as it addresses the vital aspects of the Ethiopian economy. It is in line with Ethiopian policies and international practices and considers priorities of the partners and the BMZ. The project did not specifically consider the female part of its target groups which is seen as short-coming in project design and lacks plausibility at project objective level (increased use of QI services). The project design has responded appropriately to changed conditions (Covid 19, conflicts in the country).

Criterion	Evaluation dimension	Weighting	Appraisal
Relevance	The intervention’s design is geared to country-specific, regional and global policies and priorities of the partners and the BMZ.	25 %	1
	The intervention’s design is geared towards the needs and capacities of the target groups	25 %	2
	The intervention’s design is realistically and plausibly geared towards achieving the intervention's objective	25 %	3
	The intervention’s design has responded to changes in the environment and adapted to the needs.	25 %	1
Total assessment of the relevance			1.8

5.1.2 Coherence

Dimension 1: Internal coherence: Within German development cooperation, the intervention was designed and implemented in a complementary manner, based on the division of tasks.

Within German development cooperation, the project was designed in a complementary manner, based on the division of tasks. However, this was insufficiently considered in implementation. Grade: 2.

According to the project offer, the project has been planned to interact closely with the project “Green Innovation Centres Ethiopia for the Agriculture and Food Sector – Ethiopia” (GIC; PN 2014.0967.1-005). The GIC project provided an overarching conceptual umbrella and a programme-like structure for the PTB project which was integrated into this framework and contributed to its objectives. Both projects intended to achieve improvements based on the division of tasks in improved seed and soil quality as well in the reduction of post-harvest losses and contaminant residues based on reliable measurements. The respective training contents were planned to be closely coordinated.

Furthermore, the PTB project was planned to support two other projects implemented by GIZ, (a) “Integrated Soil Fertility Management Project in Ethiopia (ISFM+, funded by BMZ, co-funded by Bill & Melinda Gates Foundation, PN 2014.0156.1) in strengthening MoA’s national soil laboratory, and (b) “Supporting Sustainable Agricultural Productivity” (SSAP, funded by the German Federal Ministry of Food and Agriculture, BMEL; PN 2020.9040.5) in supporting improved services in the seed sector.

Even though the PTB project was designed to complement GIC, ISFM+, and SSAP based on a division of tasks, this was insufficiently realized in implementation. Even though sometimes a GIC staff attended part of PTB trainings in Oromia or Amhara Regional States, training contents were insufficiently coordinated among the PTB project and GIC; the national soil laboratory could not be further supported as it had to move from its former location and has not been reconstructed since; and the cooperation with SSAP was limited to some technical exchange on the equipment of seed laboratories. Thus, expected synergies were insufficiently leveraged.

The project is consistent with international and national norms and standards to which German development cooperation is committed such as the reduction of poverty and hunger, however, there is no direct link to some guiding principles of German development cooperation. For example, regarding the protection of human rights, the project missed the aspect of advocating consumer protection organisations which would have promoted consumers’ awareness and demand for quality infrastructure.

Dimension 2: External coherence: The intervention’s design and implementation complement the partner’s own efforts and are coordinated with other donors’ activities.

Project design and implementation complement the partner’s own efforts very well. Project design is also well coordinated with other donors’ activities; however, project implementation is coordinated with other donors’ activities only to a low degree. Grade: 2.

The project complements and supports the partner’s own effort well (principle of subsidiarity). By providing strategically well selected support in certain areas it assures high level of ownership at the different project partners. In order to avoid scattering subsidies around („Gießkannenprinzip“) the project underwent a detailed and transparent selection process to identify the most useful beneficiaries for its limited support (e.g., laboratories, SMEs). Laboratories had to meet common standards, those needing substantial support (construction, equipment, organizational development) were excluded from promotion, thus assuring that the laboratories supported would make use of equipment and training support at a maximum level.

Project design has been best coordinated with other donors’ activities in the case of NQIDP (2017-2024, 50 million USD World Bank/IDA loan). NQIDP objective is to improve the delivery of quality assurance services to enterprises in the leather, textile, and food processing sectors. Support is provided to the four national quality infrastructure institutions and to MoTRI. PTB HQ staff has been involved in NQIDP project design (see World Bank, 2017: Project Appraisal Document, page vii). According to the NQIDP Project Coordinator (2017-2022) there was no coordination in project implementation. However, when it came to supporting certain aspects of quality infrastructure relevant for the agricultural and food sector, PTB supplemented the support provided by NQIDP. Example: In order to enable EMI to calibrate measuring instruments of customers according to international specifications, the PTB project trained EMI staff in the use of the grain moisture calibration devices provided by NQIDP.

The project proposal mentions that PTB project design has considered within the value chain of wheat the project “Inclusive and Sustainable Value Chain Development in Oromia and SNNP Regions

Project”, which is funded by the Italian Agency for Development Cooperation and partly implemented by FAO. This project contributes to the agro-industrial development of Ethiopia and, among others, supports laboratories for seeds as well as product quality. A division of labour had been discussed when planning the PTB project, but there was no cooperation in implementation.

Project design has not been geared to the use of existing systems and structures (of partners, other donors, or international organisations) for implementing the activities. No common systems are used for M&E, learning, and accountability – together with partners, other donors, or international organisations.

Summarized evaluation

Within German development cooperation, the project was designed in a complementary way, however, potential synergies could have been leveraged to a larger extent. The project is in line with international and national norms and standards to which German development cooperation is committed (e.g., fighting poverty, building peace and realising democracy, protecting the environment, consistency with anti-corruption statutes and human rights conventions); however, it did not consider the reduction of gender-specific inequalities, which has always been an important cross-cutting issue in German development cooperation. Project design complements the partners’ own efforts and other donors’ activities (e.g., NQIDP) well, but project implementation insufficiently considered other donors’ activities. There are no common systems used for M&E, learning, and accountability – together with partners, other donors, or international organisations.

Criterion	Evaluation dimension	Weighting	Appraisal
Coherence	Internal coherence: Within German development cooperation, the intervention was designed and implemented in a complementary manner, based on the division of tasks.	50 %	2
	External coherence: The intervention’s design and implementation complement the partner’s own efforts and are coordinated with other donors’ activities.	50 %	2
Total assessment of the coherence			2.0

5.1.3 Effectiveness

Dimension 1: The intervention has achieved its objective (at outcome level) according to the indicators agreed upon.

The project has achieved/will be achieving its objectives according to the indicators defined in the project proposal. Grade: 1.

Document analysis and interviews with project staff and different stakeholders revealed that two of the three outcome indicators have been already achieved at the time of the evaluation, the third one is

expected to be achieved by March 2024. Annex 8 provides details on the achievement of the three outcome indicators as well as on the indicators defined to measure the achievement of the outputs.

Outcome indicator	Degree of fulfilment (in %)	Appraisal (A-C)*	Justification
1. 5 SMEs from the agricultural production and processing sector have adapted their quality assurance measures to the requirements of relevant standards and technical regulations.	>100%	C	The indicator does not measure if the project objective is fulfilled. An increased use of QI services cannot be measured by five SMEs having adopted better quality assurance measures.
2. Agricultural and food laboratories are increasingly using interlaboratory comparisons to improve the quality of their analyses.	>100%	C	The indicator covers improved quality of laboratory analyses but does not measure an increased use by the target group.
3. 70 % of the trained trainers confirm that they pass on their new knowledge of QI to SMEs and smallholder farmers.	Not yet evaluated, but likely to be achieved	C	The indicator does not measure if the project objective is fulfilled. That trainers pass on their new knowledge of QI to SMEs and smallholder farmers does not measure an increased use of QI services.

*: Appraisal: A = adequate indicator; B = slight objections; C = poor indicator, to be revised if applicable.

All outcome indicators are assessed as “poor indicators” as they do not measure the increased use of QI services. Indicators which measure this can be taken from NQIDP. Data published at the World Bank website show that the use of national government QI services has increased considerably (see Annex 9). The PTB project has – among others – contributed to this development. However, the share of users from the agricultural and food sector is not known. Also, data about the use of regional state government QI services and private sector QI services are not available.

As already described in the Inception Report of the present evaluation, the project objective is beyond the influence of the project (attribution gap). Therefore, for above assessment of effectiveness of the project (Grade 1), the evaluation team applied a revised project objective: Instead of increased use of QI services it assessed improved quality and availability of QI services.

Dimension 2: The intervention’s activities, inputs and outputs have considerably contributed to achieving the intervention’s objective (at outcome level).

With some shortcomings in Output 3 (stakeholder awareness), the project’s activities, inputs and outputs have contributed well to achieving the intervention’s objective. Grade: 2.

As shown in Annex 8, both indicators for Output 1 (quality assurance) have been achieved. For Output 2 (laboratory performance), one indicator is very likely to be achieved by March 2024, while for the second, the evaluation team is not able to assess if it is/will be achieved or not. For Output 3 (stakeholder awareness), one indicator has been partly, the second fully achieved.

Regarding input delivery, in Output 3, the project concept had given high emphasis on training of trainers (ToT) to make use of its multiplier effect. However, as listed in Annex 6, Section 3.4.1 and 3.4.2, the project conducted three sensitization events, five trainings / awareness raising on QI, and only two ToTs for agricultural extension staff (Development Agents, DAs, and Subject Matter Specialists, SMS): one ToT for DAs and SMS of Oromia Region Arsi Zone Bureau of Agriculture, the other for DAs and SMS of Amhara Region Bureau of Agriculture. ToT for SMEs was not carried out as planned (see Outcome Indicator 3); in November 2021, PTB was still considering training EMA staff which in turn should train SME staff on the basis of own resources/commitment (Project Notes for the Record, 26/11/2021). Shortcomings were: No profound concepts developed for ToT of SMEs and DAs/SMS; no evaluation of the ToT by DAs/SMS in order to improve; no support of transfer of knowledge afterwards (e.g., pictorials); no follow-up of ToTs; no monitoring by Bureaus of Agriculture of the trainings (formal or informal) conducted by the DAs after they had been trained by the project.

External factors that had a crucial influence on late or non-achievement of the intervention's agreed objective were the Covid 19 pandemic and the different conflicts in Ethiopia. For example, one ToT for DAs and SMSs in Dessie, South Wollo Zone, Amhara Regional State has not been possible to be conducted due to the 6-months state of emergency across Amhara imposed on August 4, 2023.

Dimension 3: The quality of the intervention's implementation has considerably contributed to achieving the intervention's objective (at outcome level).

The evaluation of project steering and implementation is based on the Capacity WORKS (CW) management model and its five success factors (SF). While at the start of the project, the application of CW tools was not mandatory for PTB project implementation, at present, certain CW tools are: (1) for SF "Strategy", results model and capacity development strategy, (2) for SF "Cooperation", the stakeholder map, (3) for SF "Steering", the steering structure tool, results-based monitoring, and plan of operation. The SFs "Processes" and "Learning and Innovation" have no mandatory tools defined.

The quality of project steering and implementation has affected achieving the intervention's objective at outcome level – more as well as more intense/in-depth results could have been achieved with better management. Grade: 3.

In the assessment of the CW factors below, the lean project management should be considered – with its limited number of staff and comparably small project funds, the project could not accommodate highly sophisticated structures, but should have strategically selected relevant tools. For a more detailed assessment of project management, see Annex 6, 3.5 Project Management.

CW factor Strategy

The project strategy has been developed in consultation with the project partners. The project's results model has been presented at the planning workshop and each of the three Project Technical Committee Meetings to project partners. Even though the project has not produced an explicit capacity development (CD) strategy, it reaches its results with activities on all levels of capacity development (person, organization, society). The project strategy for achieving the project's results has been introduced to the partners and relevant actors; the different partners implement the part of the strategy which is relevant to them.

CW factor Cooperation

There are many actors whose contributions are necessary to achieve the project's results and objective; the project offer, implementation agreement, and Terms of Reference (ToRs) for the Project Technical Committee Meetings (TCMs) mentions between eleven and thirteen implementing partners.

The three TCMs were attended by staff representing five to twelve partner organisations. Partners mentioned were not always the same; the project adjusted its partner spectrum according to needs.

Partners were contributing to the implementation of the project, with partly low intensity - due to the late start of the project (implementation agreement signed in August 2020), Covid 19, the conflicts in Ethiopia, the worsened security situation, and the frequent change of PCs, PAs, and iSTEs. However, at the time of the evaluation, partners actively contributed to achieving the project's results and objectives. Partners know the role which they are supposed to be playing in their respective field and make respective contributions to achieve the project's results. The project has purposefully designed the communication and cooperation relationships between PTB and its partners, but the evaluation team saw insufficient exchange between the different Ministries needed to, as phrased by the MoA representative citing the former PC, "trying to crack down the silos".

The project has insufficiently analysed and documented the extremely complex and constantly changing partner and stakeholder landscape. A comprehensive, constantly updated stakeholder analysis would have helped to facilitate the frequent personnel changes - three PCs, five PAs, three iSTEs - and would have supported international project consultants in familiarizing themselves with the project.

CW factor Steering structure

Project steering as intended at the start of the project (via joint GIC-PTB Steering Committee Meetings) did not realize. Instead, the project contacted the counterpart focal person according to need (no records on agreements reached). Steering at lower levels was done during the TCMs. They were planned to be held bi-annually, but took place only once a year, on Nov 5, 2020, 10:00-12:30 (remote), Nov 18, 2021, 10:00-12:35 (remote), and Oct 19, 2022, 8:30-13:00. At the TCMs, PTB reflected on the project structure (results model) and presented the achievements since the last TCM and activities planned. Besides the TCMs, PTB exchanged and communicated with individual partners on a needs basis.

The PTB monitoring system consists of a large Excel file, also accessible for the LC, with sheets on results matrix, indicator definition sheet, results model or logic, results monitoring sheet, risk monitoring, lessons learnt, and plans of operation for the three outputs. Not all sections are filled, and the file is not regularly updated. As observed, there is insufficient indicator monitoring, monitoring of milestones, activity monitoring, monitoring of partner contributions, and monitoring of risks or assumptions. There are no sufficiently detailed lists of trainings conducted (no gender-segregated participant lists), equipment provided, experts deployed, etc. available and, thus, the monitoring data do not provide an appropriate overview about the present status of the project and for steering.

It is questionable if this very pragmatic approach of steering provided appropriate room for strategic discussions, and it is also questionable if the steering structure provided the project with the necessary political backing to ensure that the planned changes in the partner system can take place.

CW factor Processes

The project has not used a process map to analyse processes that occur independently of the project in its context (sector), and the links with project processes were not clearly delineated (e.g., contributions of the project). The project did not sufficiently establish appropriate processes, such as cooperation processes, learning processes, supporting processes, steering processes. And instead of cooperation partners contributing to interfaces between relevant processes and stakeholders to increase the overall performance, they tend to concentrate on their own sector. Exception were the training manuals produced by QI institutions for the agricultural sector. So far, cooperation partners did not sufficiently make the necessary organisational and institutional adjustments to achieve the agreed

results and objective – this requires a longer process which needs further support of PTB, making use of the political backing at higher levels.

CW factor Learning and Innovation

The project puts high emphasis on promoting technical innovations within the partner systems. It provided equipment and consumables for institutions and laboratories which are otherwise not available, organized training given by international short-term experts and sent staff of QI institutions for training abroad. It did not actively promote institutional innovations within the partner system.

In general, the project practiced insufficient reflection, learning from experiences, and exchange – at the level of activities conducted as well as at project level. Also, its knowledge management system is not organized in a way that helps the project in project implementation. The Lessons Learned folder of the PTB monitoring sheet has not been used by the project (no entries). PTB's system for storing files is applied, but as file names do not systematically indicate date, contents and author, files cannot easily be traced back.

There were no learning objectives and corresponding changes in the partner system (organizational level, cooperation between actors, QI system, etc.) defined and agreed upon with the management level of the respective stakeholders and the politically responsible individuals. In general, the project did not sufficiently promote learning and moving forward – after implementing an activity, there is no joint analysis of experiences or results and adjustments required. The evaluation team did not see examples of learning experiences that were discussed with the relevant stakeholders, documented, and disseminated/used in an appropriate way (knowledge management). Only the SME consultant distributed evaluation sheets at the end of his trainings and informed PTB on the summarized results. In its last training before the evaluation, in August 2023, the project started discussions at the end of the training for evaluation which were summarized by the LC for the PC.

Dimension 4: The intervention has leveraged potentials of unintended positive results and reacted to risks and/or the occurrence of (unintended) negative results.

The evaluation team did not identify unintended positive or negative results of the intervention – at present or in future. Regarding reaction to risks, some of the risk-mitigation measures identified at the start of the project were not implemented. Grade: 3.

The project has responded appropriately to the risks mentioned in the project proposal with the following exceptions, which were insufficiently implemented: (a) Proactive communication strategy and regular involvement via steering meetings to mitigate the risk of insufficient support from MoA for implementation of project activities; (b) Introduction of knowledge management procedures to mitigate the risk of losing knowledge due to frequent personnel turnover, (c) Consultation on balanced cost design to mitigate the risk of lacking demand for services due to high costs.

Summarized evaluation

The project has achieved its objective (at outcome level) or is expected to achieve them at the end of the project. The project's activities, inputs and outputs have considerably contributed to achieving the project's objective (at outcome level); however, less trainings of trainers were conducted, and trained trainers were not sufficiently supported to integrate their new knowledge into their daily work (Output 3: stakeholder awareness). The quality of project steering and implementation insufficiently supported achieving the intervention's objective at outcome level. Some of the risk-mitigation measures identified in the project proposal did not realize.

Criterion	Evaluation dimension	Weighting	Appraisal
Effectiveness	The intervention has achieved its objective (at outcome level) according to the indicators agreed upon.	25 %	1
	The intervention's activities, inputs and outputs have considerably contributed to achieving the project's objective (at outcome level).	25 %	2
	The quality of the intervention's implementation has considerably contributed to achieving the intervention's objective (at outcome level).	25 %	3
	The intervention has leveraged potentials of unintended positive results and reacted to risks and/or the occurrence of (unintended) negative results.	25 %	3
Total assessment of the effectiveness			2.3

5.1.4 Efficiency

Project budget was planned to be spent by 64.5% for PTB staff and consultants, 11.0% for material assets, 24.0% for human capacity development, and 0.5% for other costs, which is reasonable for this kind of project. Due to the late start of the project and delays in project implementation (Covid 19 pandemic, the different conflicts in Ethiopia), less activities could be conducted than originally planned.

By May 2023 (PTB could not provide the evaluation team with more recent data), after 80% of the project period, only 42.9% of the planned budget was spent. 55.9% of the planned budget for PTB staff and consultants had been spent, 33.3% of the planned budget for material assets, 12.2% of the planned budget for human capacity development, and 38.5% of the planned budget for other costs. This indicates less capacity development than originally planned which can partly be explained by the Covid 19 pandemic and the different conflicts in the country. According to the PC, major expenditures for material assets occurred after May 2023.

The budget was planned to be almost equally spent by the three outputs (Output 1: 35.3%, Output 2: 33.6%, Output 3: 31.1%); however, by May 2023, expenses for Output 1 were 41.6% of total expenses, Output 2 38.5%, and Output 3 19.9%, indicating less awareness creation than originally planned.

Funds spent so far varied considerably between years: Of all funds spent until May 2023, 14.2% were spent in 2020, 35.2% in 2021, 33.5% in 2022, and 17.1% in the first five months of 2023. An equal distribution of funds spent would have resulted in 29.3% of funds spent in 2020, 2021, 2022 each and 12.2% from Jan to May 2023.

Dimension 1: The use of resources by the intervention is deemed reasonable with regard to the outputs achieved (production efficiency)

The project’s use of resources is deemed reasonable regarding the outputs achieved. Grade: 2.

The use of resources by the project regarding outputs achieved is assessed as good. Neither could the achieved outputs have been delivered using fewer financial resources, nor would a different use of financial resources have increased project results. However, many outputs (products, equipment and services) could not be achieved on time and within the planned timeframe – due to the late start of the project, Covid 19 and the different conflicts in Ethiopia. The restructuring of the Ministries and institutions as well as their advisory bodies led to additional inefficiencies in their functioning. The equipment needed by the two laboratories was identified late; the delivery was further delayed by customs clearance procedures.

Dimension 2: The use of resources by the intervention is deemed reasonable regarding the achievement of the intervention’s objective/outcome (allocation efficiency).

The project’s use of resources is deemed reasonable regarding its outcome achieved; however, it could have optimized by constant reflection and evaluation of experiences made. Grade: 2.

The use of resources by the project regarding its objective/outcome achieved is assessed as good. The achieved outcome could not have been delivered using fewer financial resources. Also, a different use of financial resources would not have increased project outcome. However, the project could have used more opportunities to improve through constant reflection and evaluation of experiences made. For example, the support to SMEs provided was not planned to be used as pilot making the experiences available for the Ethiopian Millers Association.

Summarized evaluation

The project’s use of resources is deemed reasonable regarding its outputs as well as its outcomes achieved. However, the project could have used more opportunities through constant reflection and evaluation of experiences made.

Criterion	Evaluation dimension	Weighting	Appraisal
Efficiency	The use of resources by the intervention is deemed reasonable with regard to the outputs achieved (production efficiency).	50 %	2
	The use of resources by the intervention is deemed reasonable with regard to the achievement of the objective/outcome (allocation efficiency).	50 %	2
Total assessment of the efficiency			2.0

5.1.5 Higher-level development results

Dimension 1: The intended higher-level development changes have taken place or are expected to take place in the near future.

The intended higher-level development changes have taken place or are expected to take place in the future; however, at farmer level, less higher-level development changes than originally expected are prognosed to arise. Grade: 2.

The evaluation team identified many higher-level development changes to which the intervention was designed to contribute, such as increased income and employment at the level of the seven SMEs, increased exports and foreign exchange availability, transformation of the agri-food system, increased food security, improved food safety, and improved health (aflatoxin, pesticide residues). Scientists can get internationally rewarded if there is no doubt about the reliability of results of their analyses in their publications. Also, adaptation to climate change is better possible due to the improved seed laboratories, and soil analyses results can lead to correct fertilizer application which has environmental benefits. It can realistically be expected that many of these changes will occur. At present, in the seven wheat processing SMEs supported, organizational changes happened through the implementation of formalized quality assurance systems and substantial new upgrades of the factories by their owners. Also, the two laboratories supported have adjusted or will adjust their organization of laboratory management.

However, at farmer level, with the limited number of ToTs carried out and the insufficient follow-up, at present, less impacts are expected. The opportunity to anchor sustainability was also missed at SME level. The project has not contributed to higher-level development results for women or disadvantaged or vulnerable groups.

Dimension 2: The results achieved by the intervention (at outcome level) have contributed to the intended or implemented higher-level changes.

Even though the results achieved by the project have contributed or will contribute to higher-level changes, project activities have not been used as models to achieve broad-based impact (e.g., quality systems for SMEs, ToTs for SMEs and SMS/DAs). Grade: 2.

The project results have plausibly contributed/will plausibly contribute to the identified foreseeable higher-level development changes. The increased quality and availability of QI services as well as increased awareness and – probably – use of these services will lead to the expected economic, environmental, and institutional changes. Still, essential bottlenecks must be overcome such as the low attention of related agricultural laboratories to maintain their accreditation (none of the public agricultural laboratories visited - OARI, APIQTC, HARC - has maintained its accreditation for its testing parameters; since 2019, the annual fees for renewing the accreditations were no longer paid; now, laboratories only assess their continued compliance with ISO 17025 through PTB-funded PT results for a limited period), or the dependency for CRMs and participation in PTs on foreign exchange (in a few years, EMI will be able to produce these).

Internal and external factors which promoted or hindered the achievement of the project's intended development changes are listed in Annex 6, Section 3.1 (external factors) and sections 3.2-3.5 (internal factors).

At present, the project did not serve as a model or achieved broad-based impact. Activities were implemented without using them as model or pilot by analysing the experiences made and documenting it in such a way that it can be spread further. Relevant stakeholders were not sufficiently

involved to promote such processes. This applies to (a) the support of SMEs (here, the Ethiopian Millers Association would be the organization to further promote this among its members) as well as to (b) the training for DAs and SMS (the national extension package should be used for further spreading of QI issues). Instead, partners expect further support of PTB to continue similar activities.

Dimension 3: The intervention has contributed to positive and not to negative unintended higher-level development changes.

The project has not contributed to unintended positive higher-level development changes. As unintended negative higher-level development change, increased dependence on external funds could be mentioned, but this was short-term bridging necessary for crucial capacity building. Grade: 2.

According to the assessment of the evaluation team, the project has not contributed to unintended positive or negative higher-level development changes. As unintended negative impact, one could mention that budget gaps in Ethiopian institutions are expected to be filled permanently by external sources. However, with PTB support, capacity, knowledge and awareness were created which, if implemented, will increase budgetary demands for maintenance, repair, consumables, accreditation fees, PT fees, etc.. Institutional budgets received from Ministries must be adapted in a way where the quality costs can be financed internally and / or by charging service fees. Due to the project, partners know better how to solve the various problems leading to the presently low use of QI services in Ethiopia.

Summarized evaluation

Due to the results achieved by the project, higher-level development changes have taken place or are expected to take place, such as increased income and employment at SME level, increased exports and foreign exchange availability, increased food security, improved food safety, improved health (aflatoxin, pesticide residues), increased international reputation of research results, improved adaptation to climate change, and environmental benefits. The intervention has not contributed to unintended positive or negative higher-level development changes. However, at farmer level, less higher-level development changes than originally expected will arise. Also, project activities have not been used as models to achieve broad-based impact (e.g., quality systems for SMEs, ToTs for SMEs and SMS/DAs).

Criterion	Evaluation dimension	Weighting	Appraisal
Higher-level development results	The intended higher-level development results have taken place or are expected to take place.	25 %	2
	The results achieved by the intervention (at outcome level) have contributed to the intended or implemented higher-level results.	50 %	2
	The intervention has contributed to positive and not to negative unintended higher-level development changes.	25 %	2
Total assessment of the higher-level development results			2.0

5.1.6 Sustainability

Dimension 1: The partners, target groups and organizations involved have the capacities required to ensure that positive results are continued.

Capacities required to ensure sustainability of project results have increased at the level of partner organizations and target groups, except for farmers. Grade: 2.

Partner organizations and target groups have obtained the capacities needed to continue the positive results of the project. Only at the level of farmers, awareness creation and capacity building through DAs happened at a limited scale and, thus, sustainability remains uncertain. At the level of the seven SMEs, sustainability is assessed to be very high – owners and staff have invested considerable efforts (improvement of physical structures, sophisticated documentation system, audit) because they are convinced that this will pay off; thus, they will ensure that positive results are continued.

The evaluation team assessed institutional, human, and financial resources as well as willingness (ownership) required for sustainability as sufficient to high; a problem often reported to fully make use of capacities created was the availability of foreign exchange for laboratory consumables and CRMs which are not available in Ethiopia, and PT participation. Regarding the mandate of HARC to act as national provider of soil testing PTs, see Chapter 6, specific evaluation question No. 1.

Dimension 2: The intervention has considerably contributed to the capacity of partners, target groups and other organizations involved to continue the positive results.

The project has contributed to the capacity of partner organizations and target groups and enabled them to continue the positive results, except at the level of farmers. Grade: 2.

The different project measures (e.g., technical training for individuals of the national quality infrastructure institutions in Ethiopia and abroad, several trainings for the seven SMEs selected in achieving certification ISO 22000, support in PT participation for nine agri-food laboratories, technical support and trainings for the two laboratories selected for support in ISO 17025 certification, three awareness trainings with OSTA for different audiences, two ToTs for SMS and DAs) have increased the capacity of partner organizations and target groups to continue the positive results of the project on their own – with the exception of farmers as the ToTs for SMS and DAs in Oromia and in Amhara are not expected to have substantially increased farmers' capacities. The question remains who will continue training SMEs and SMS/DAs. As the project has missed the opportunity to organize ToTs for SMEs, EMA is expected assuming its role in supporting its members in FSMS; however, EMA is not as strong as the Ethiopian Horticulture Producer Exporters Association (EHPEA).

The English pictorials of wheat and faba bean standards produced at the end of the last project phase have been insufficiently used. Translation of the pictorials by IES into Oromifa and Amharic languages would help farmers to understand their contents. Also, it would be better if DAs and SMS could rely on training manuals in Oromifa and Amharic instead of in English - on standards of wheat and of faba beans (written by IES with support of PTB), and on measurements (written by EMI with support of PTB). The print templates have not been shared with the partners, remaining copies of pictorials and training modules for standards of wheat and of faba beans are at IES, the training manuals on measurements were reported by EMI to be with PTB. Intended users – MoA, Bureaus of Agriculture and OSTA have got no print templates and no copies for their trainings.

The project has contributed to strengthening the resilience of partner organizations through its capacity building measures – the individuals trained are now better in the position to react on problems occurring.

Dimension 3: The results of the intervention are durable.

Under the prevailing conditions, the results of the intervention are durable for SMEs and public enterprises, but not for farmers and public laboratories. Grade: 3.

For durable results of the projects, changes in public quality infrastructure institutions are required. Financial adaptations to finance the quality infrastructure costs are needed. Testing and calibration laboratories, PT providers, certifiers, and inspection bodies could become sustainable if the necessary organisational changes take place. A positive example for a sustainable public institution is ECAE, which is registered as an enterprise which can retain its income from its services and use it to finance its quality costs (e.g., costs for accreditation, participation in proficiency tests, internal comparisons, callibration of measuring instruments, or staff training). Under the prevailing conditions, the results of the intervention are durable for the seven SMEs and public enterprises, but not for farmers and public laboratories. Sustainability of PT participation will increase with EMI being able to produce CRMs and PT samples in Ethiopia.

Summarized evaluation

Capacities required to ensure sustainability of project results have increased at the levels of partner organizations and target groups (except for farmers) due to the different project measures. Under the prevailing framework conditions, the results of the intervention are durable for the seven SMEs and public enterprises, but not for farmers and public laboratories.

Criterion	Evaluation dimension	Weighting	Appraisal
Sustainability	The partners, target groups and organizations involved have the capacities required to ensure that positive results are continued.	33.33 %	2
	The intervention has considerably contributed to the capacity of partners, target groups and other organizations involved to continue the positive results.	33.33 %	2
	The results of the intervention are durable.	33.33 %	3
Total assessment of the sustainability			2.3

5.1.7 Summary of the intervention’s contributions to the 2030 Agenda for Sustainable Development

Universality, shared responsibility and accountability

Regarding the 2030 Agenda for Sustainable Development, by improving the quality of agricultural products, the project contributes to SDG 1 (No Poverty), SDG 2 (Zero Hunger), and SDG 3 (Good Health and Well-Being). By setting up quality-assurance services, the module also contributes to SDG 9 (Industry, Innovation and Infrastructure) and SDG 17 (Partnerships for the Goals).

Instead of creating parallel structures, the project design is built on using existing systems and structures of partners for the implementation of its activities. There are no systems for monitoring, learning and accountability which could be used jointly. Besides supplementing the support provided by NQIDP to the national QI institutions, the project is not implemented in a division of labour with other donors and development partners.

Interplay of economic, environmental and social development

As a technical project linking quality infrastructure with the agricultural and food sector, the project does not apply a holistic approach to sustainable development. It cannot be expected that a project of such limited scope leads directly to economic, ecological, and social development in the short term, but in the long term, positive impacts in these areas are expected to occur.

Inclusiveness/Leave no one behind

The project did not especially consider the participation and promotion of women or particularly disadvantaged groups. Women were not especially promoted, and there were no project activities to especially strengthen their resilience. For further details, see specific evaluation question No. 2.

6. Assessment of specific evaluation questions

Specific evaluation question 1: A national soil proficiency testing programme was set up at the Holeta Agricultural Research Centre with support of a previous PTB project. How sustainable is the programme? What are the lessons learned so far and are there potentials to upscale the measure to other sectors (i.e., other substrates to be analyzed instead of soil)?

Holeta Agricultural Research Centre (HARC) was selected by the Ethiopian Laboratory Association (ELA) as national soil proficiency testing (PT) provider from among two eligible laboratories in the previous phase of the project. HARC is one of the Agricultural Research Centres of the Ethiopian Institute of Agricultural Research (EIAR). As already mentioned, the evaluation team could not talk to EIAR's Natural Resource Management Director who is in charge of HARC.

HARC has received different support from the project: participation in PTs (3 in 2022, 4 in 2023), procurement of a sample divider to be used for the production of uniform soil samples to be distributed to the participants in a soil PT, two staff got trained abroad - the lab head attended the International Summer School on Quality Assurance in a Testing Laboratory (ISO/IEC 17025) in Czech Republic in July 2023 (two-weeks) and one HARC expert participated in the global Eurachem PT conference in September 2023 in Windsor, United Kingdom (4 days), and advice by an international short-term consultant. Unfortunately, the staff member who had strongly promoted HARC to become national soil PT provider has left HARC in 2022 for a 4-years PhD study in the Netherlands.

HARC has run one soil PT in 2019, the second one in June 2022, and the third one is planned for end of 2023. The second round has not yet been finalized – the PT results available in December 2022 were not sent to the participating laboratories yet.

ISO/IEC 17043 accreditation is a key quality criterion for PT providers. Moreover, this accreditation is legally required in many countries and accreditation bodies for soil testing laboratories will not recognize soil PT tests from unaccredited soil PT providers for issuing ISO/IEC 17025 accreditation to soil testing laboratories. A national soil PT provider for Ethiopia should therefore be accredited to ISO/IEC 17043, which is not yet the case for HARC.

HARC is still in the phase of setting up the system for acting as national soil PT provider. The limited time of the evaluation did not allow an in-depth analysis of HARC's proficiency to conduct national soil

PTs and to discuss lessons learned. As the system is not yet fully operating, it is too early to assess its sustainability. However, with EMI planning to be in a position to produce Certified Reference Materials (CRMs) locally in the next few years, the chance for sustainability increases.

Regarding HARC's mandate, the Ministries and all institutions concerned (e.g., EAS, EMI, EAA, EIAR, HARC, ELA) should jointly decide in a transparent process which laboratory/laboratories could in future serve best as national PT providers for different agricultural products and product matrixes in such a way that interested public and private laboratories can easily afford to participate. This is important to support the agricultural research laboratories to regain and maintain their accreditation for international acceptance of their test results.

Specific evaluation question 2: What potentials existed in this project to promote gender mainstreaming? What concrete measures could be put in place to promote gender mainstreaming in future QI projects in Ethiopia?

The answers provided by the eleven workshop participants in the gender evaluation questionnaire during the Kick-off Workshop of the evaluation on Oct. 23rd showed that few of the existing potentials in the project to promote gender mainstreaming were used. Examples given were: encouragement of women to participate in trainings, and indirect impact on women through the project's focus on food quality (nutrition; see Annex 5).

The key evaluator was surprised to realize that the gender of the participants was not recorded in the project's training participant lists. As she had expected that only few women worked in QI, she also was surprised to read in the NQIDP project appraisal document from March 2017 (World Bank, 2017, p. 97), that 34% of staff of the four NQI institutions was female; ENAO/now EAS, an administrative institution without laboratories, had even 42% female staff. The composition of staff of lower education level (Diploma and below) was more balanced than that with a master's degree (47% vs. 7% female).

The answers of project partners in the gender mainstreaming questionnaire of the Kick-off Workshop revealed a broad array of concrete measures which could be put in place to promote gender mainstreaming in future QI projects, such as:

- Capacity building of businesswomen, supporting women processors, support female entrepreneur SME, business to business meetings (discussions),
- Provision of leadership and skills upgrading, education and trainings for women,
- Gender-responsive standards and participation in standardization and quality assurance,
- Networking and collaboration (experience sharing) with relevant bodies, establish a platform where one can get experience from others, gender experience sharing,
- Support daycare facilities of institutions.

The discussion with NQIDP on gender issues revealed additional aspects:

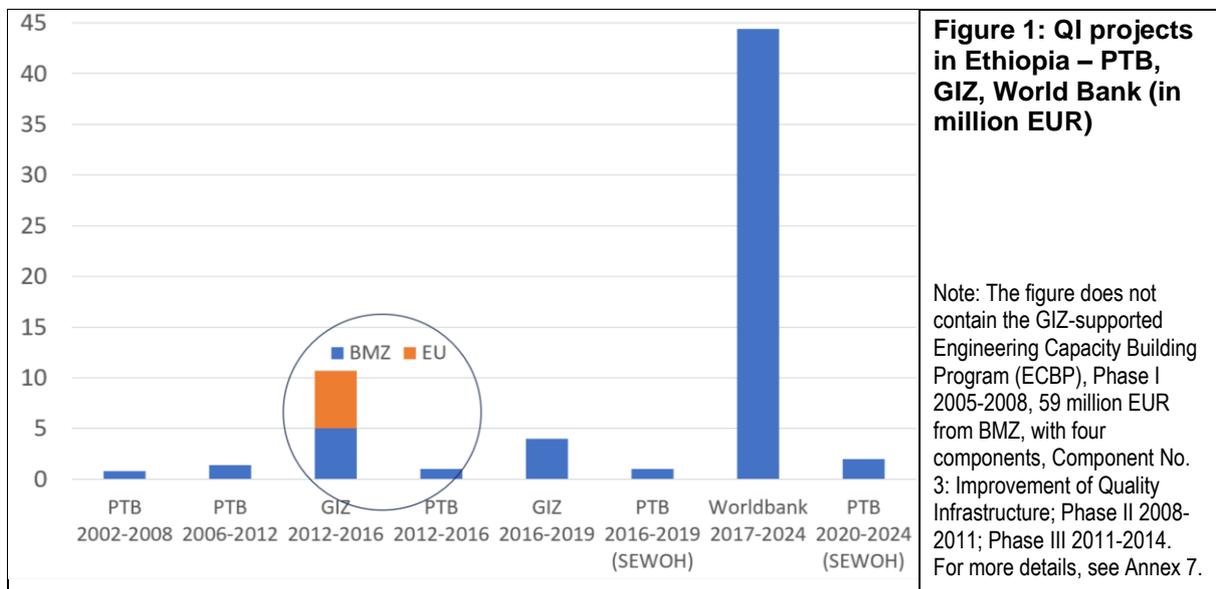
- View gender in the light of QI institutions, e.g., women are going to the market, raise their awareness on measurements and standards, assure that women are considered properly,
- Bring women closer to the NQI institutions to understand QI, e.g., girls' day,
- Consider gender-based protection equipment.

In view of the new feminist development policy of the German government (see BMZ, 2023), PTB should consider employing a gender expert to support its section for international cooperation (9.3) in integrating this policy in its projects of technical cooperation. After the evaluation, PTB informed the evaluator that PTB had recently employed two gender experts.

Specific evaluation question 3: What opportunities exist to improve political attentiveness for future PTB-MoA projects?

MoA has been very supportive to the PTB project (e.g., by chairing the annual Technical Committee Meetings, attending project workshops, providing information to PTB on new projects of the government and donors). The evaluation team identified four opportunities to further improve political attentiveness for future PTB-MoA projects:

1. Explain the unique selling point of PTB and its comparative advantages (see Figure 1 below and Annex 7): PTB takes a different approach to other donors - “PTB supports developing countries and countries in transition in developing and using an internationally recognized quality infrastructure which is geared to the country's needs” (www.ptb.de/cms/en/international-affairs.html). It does not come with large budget for running training programs with high numbers of participants but has specific technical knowledge and supports its partners in this field.



2. Emphasize the importance of the present project for the future of the country (income, food security, exports to obtain foreign exchange), e.g., through a joint PTB-MoA publication.

3. Organize a well-prepared meeting PTB - MoA - MoTRI State Minister Quality Infrastructure and Assurance Sector to discuss the respective expectations and realistic possibilities to further close the gap between the national QI institutions and the agri-food sector. Prepare Minutes of Meeting and assure follow-up of actions agreed.

4. More frequent visits of PC to Ethiopia to allow more often direct contact. Note: Due to Covid 19, no PC visit possible between 02/2020 (planning workshop) and 06/2022 (introduction of new PC).

7. Learning processes and experiences

This chapter distinguishes learning processes – systematic processes planned and initiated by the project in which new knowledge was acquired or shared as part of the project – and experiences – unplanned gains in knowledge which happened within the scope of the project.

Learning processes took place due to the different approaches applied for capacity building (e.g., specialized technical training for institutions, trainings for SMEs, laboratories, and agricultural target groups). For example, EMI staff learned the calibration of multiple dispensers and of single stroke dispensers and piston burettes, as well as different aspects of temperature measurements, force metrology, and chemical metrology, so that EMI is now better able to serve customers from the agricultural and food sector. SMEs and laboratories passed a lengthy process before they were selected for project support. This resulted in a high probability that support provided would last. Tailor-made trainings (learning by doing) of individual SMEs resulted in knowledge of Food Safety Management System (ISO 22000:2018) which was used for installation, implementation, and certification.

For EMI and IES staff involved, preparing training material for target groups of the agricultural and food sector with intensive feedback/support by the iSTE and conducting the respective trainings helped them to understand the limitations of this target groups as mentioned by the Standard Implementation Directorate Director of IES at the Debriefing Workshop. However, there was no adjustment of trainings accordingly. The steps of pilot – evaluation and learning – adjustment – scaling has not been applied.

Experiences – as assessed by the evaluation team – cover PTB's successful cooperation with a different partner than usual. PTB, Germany's national metrology institute providing scientific and technical services, cooperates with National Metrology Institutes all over the world, and gives practical aid in setting up the metrological infrastructure. With MoA as project holder (political partner), this project is in a good position to tackle QI from the demand side, not the supply side. This ensures that – over time – QI institutions are better able to fulfill the needs of the agri-food sector and that, finally, the stakeholders of the agri-food sector increasingly use the services available. However, at present, quality aspects are tackled at a late stage in the value chain - when products are tested at laboratories, e.g., for export, it is too late for improving their quality; quality aspects should be introduced at the level of producers, storage, transport enterprises. Farmers should produce better quality products, and the type of storage and transportation should not affect the quality of the products. The project gathered experience on how to better incorporate QI at different steps of the value chain. However, this has not been analyzed and documented.

8. Recommendations

At the time of the debriefing workshop in Addis Ababa (30/10/2023), it was not clear (a) if the present project could be extended on a cost-neutral basis, and (b) if BMZ would grant Ethiopia a new bilateral project linking QI and the agri-food sector. Thus, the evaluation team prepared a detailed handout for the debriefing workshop (Minutes of Meeting, MM, see Annex 6) to support project re-planning and enable immediate improvement and making optimal use of the remaining five months. The recommendations are derived from the findings mentioned in the Debriefing Workshop's MM (e.g., MM3.2.3 can be found in Section 3.2.3 of the MM) as well as from the present report (e.g., Ch5.1.2-D2 can be found in Chapter 5.1.2, Dimension 2 of the report).

Recommendations to partners and to the project team

Improve framework conditions

1. **Improve political visibility of the project:** Prepare a joint PTB-MoA publication on relevance of the project, project approach, lessons learnt, and future actions needed to stress the project's importance Ethiopia's future (income, food security, exports to obtain foreign exchange; Ch6.3), organize a well-prepared meeting MoA - MoTRI QI State Minister - PTB to discuss the respective expectations and realistic possibilities to further close the gap between the national QI institutions and the agri-food sector (with Minutes of Meeting and follow-up; Ch6.3)

Improve quality assurance (Output 1)

2. **Assure sustainability of SME support:** Within the next few weeks, conduct a workshop together with EMA for 7 SMEs to analyze lessons learnt (e.g., list of dos and don'ts, flowchart of steps to be achieved) to put EMA in the position to provide further FSMS support; develop a concept and steps for wider scaling up through EMA, exchange visits to certified processors, ToT? (MM3.2.3, Ch5.1.6-D2), support EMA in filling its role, e.g., by organizing an exchange visit to the horticulture association EHPEA, afterwards evaluation workshop and plan of action (MM3.2.3, Ch5.1.6-D2)
3. **Assure the creation of a platform for communication between agri-food SMEs and NQI institutions** so that NQI institutions can provide continuous support to SMEs and SMEs are more aware about the QI services available – consider using EMA, chamber of commerce, social media, world days (World Pulses Day Feb 10th, World Consumer Rights Day March 15th, World Bee/honey Day May 20th, World Food Safety Day June 7th, World Accreditation Day June 9th, International Day of Agriculture Oct 12th, World Food Day Oct 16th, World Quality Day Nov 9th) for this (MM3.2.3)

Improve laboratory performance (Output 2)

4. **Decide about future national PT provider(s):** Organize a discussion with MoA, MoTRI, EIAR, HARC, EAA, EMI, ECAE, and ELA to jointly decide in a transparent process which laboratory/laboratories could in future serve best as national PT provider for different materials in such a way that (a) interested public and private laboratories can easily afford to participate and (b) minimal costs arise at high reliability (MM3.3.2, Ch6.1)

Improve stakeholder awareness (Output 3)

5. **Increase the use of awareness raising material:** Develop a strategy for making use of awareness materials available (MM3.4.3); reprint of pictorials (with new logo), put them on websites, use social media (MM3.4.3), produce information products on aflatoxins and pesticide residues (MM3.4.3)
6. **Intensify public awareness creation on quality-related issues:** e.g., make better use of world days for awareness raising on QI issues in agriculture and food (MM3.1, MM3.4.1)
7. **Intensify awareness creation at the levels of producers, storage, transport enterprises:** Analyse and document project experience on how to better incorporate QI at different steps of the value chain (Ch7), introduce quality aspects at earlier steps of the value chain (Ch7), conduct more ToTs before the end of the project (MM3.4.2)
8. **Assure sustainability of DAs/SMS support:** Make use of the gvt. structure of DAs and SMS: introduce QI aspects in the three-monthly meetings to explain how QI can be used to increase farm incomes, distribute pictorials for training and display at prominent parts of the woreda (MM3.4.2, Ch5.1.6-D2)

Recommendations to partners

Improve framework conditions

9. **Increase sustainability of PTB support:** Assure that gap-filling of PTB does not become long-term habit for partners; develop realistic sustainable solutions to overcome PTB support needed (MM3.1)

Improve quality assurance (Output 1)

10. **Assure EMI support to agri-food SMEs:** The two EMI directorates for maintenance and repair of laboratory instruments at universities and hospitals could expand to agricultural testing laboratories when maintenance contracts with manufacturers are expired (MM3.2.4), EMI can technically support institutes to organize their own maintenance, repair and calibration workshops (MM3.2.4)

Improve laboratory performance (Output 2)

11. **Assure accreditation of public agri-food laboratories:** MoA should promote accreditations of its public laboratories through EAS or, in cases, where EAS is not yet internationally recognized, use foreign accreditors (MM3.3.1), financing of accreditation costs from fees gained from conducting laboratory analyses (MM3.3.1), MoA should ensure that published results in papers are based on correct measurements which is only possible through accreditation (MM3.3.1)
12. **Assure sustainability of laboratory performance:** Quality assurance should be regarded as part of service provision and has to be paid for (MM3.3.3)
13. **Assure HARC improving as national soil PT provider:** HARC should specify its training needs so that PTB can organize a trainer from an experienced PT provider for gap analysis and training before the end of the year (MM3.3.2), HARC should talk to EAS whether their PT is acceptable for accreditation purposes and inform participants accordingly (MM3.3.2), HARC should facilitate the participating PT labs in developing road maps for corrective actions according to PT results (MM3.3.2), accreditation of the national soil PT provider to ISO/IEC 17043, financing of accreditation costs from fees gained from conducting PTs, which are also open to private customers (Ch6.1)

Improve stakeholder awareness (Output 3)

14. **Increase the use of awareness raising material:** Use up existing pictorials of IES in OSTA UNIDO training (10,000 farmers in 2023; MM3.4.3)
15. **Evaluate experiences made in DAs/SMS ToT:** Bureaus of Agriculture should collect feedback from DAs to what degree DAs have transferred their knowledge obtained in ToTs (formal or informal) and submit results to PTB (MM3.2.1, Ch5.1.3-D2)
16. **Assure sustainability of DAs/SMS support:** Translate wheat and faba bean standards pictorials and handbooks as well as measurements in agriculture handbook in Oromifa and Amharic languages (MM3.2.1, MM3.4.3), use existing MoA structure (DA meeting every three months) for explaining of content and distribution of pictorials (IES) (MM3.2.1), QI should be included in the national extension package for further spreading (MM3.4.2)

Recommendations to the project team

Improve laboratory performance (Output 2)

17. **Support HARC improving as national soil PT provider:** Provide HARC a trainer from an experienced PT provider for gap analysis and training before the end of the year (MM3.3.2)

Improve stakeholder awareness (Output 3)

18. **Increase focus on awareness creation for different target groups:** e.g., by media campaigns, consumer protection (MM3.4.1)
19. **Assure making better use of awareness creation materials available:** Reprint handbooks for IES, EMI and MoA stock (MM3.2.1), reprint English and translated pictorials, decide about size (MM3.2.1), share print templates with the QI partners and intended users – MoA, Bureaus of Agriculture and OSTA (Ch5.1.6-D2)
20. **Improve ToTs:** Develop a concept for ToT; organize evaluations of ToT by the participants; improve the ToT concept and implementation accordingly; assure follow-up of ToTs; support the transfer of knowledge after ToT, e.g., by providing translated pictorials (Ch5.1.3-D2)

Improve project management

21. **Improve project implementation:** Conduct and maintain a stakeholder analysis with documentation to facilitate familiarization of new staff or consultants with the project (MM3.5.1, Ch5.1.3-D3), assure more frequent visits of PC to Ethiopia (MM3.5.1, Ch6.3), provide support for Local Coordinator in administrative issues (helping hand, on demand) (MM3.5.1)
22. **Improve cooperation: (a) internal:** Facilitate consultations and regular exchange among project partners – also at Ministry levels (regular strategic meetings) – for overcoming silo mentality (MM3.1, Ch5.1.3-D3), share operational plan with partners (transparency, ownership; MM3.5.2), **(b) external:** actively explore on creating possible synergies with projects of other donors and work accordingly (MM3.5.6), regular formal and informal exchange of information between project staff of different donors (MM3.1, MM3.5.5)
23. **Improve project documentation:** Improve documentation of activities planned and implemented to smoothen handing-over processes (MM3.5.1), after each project event (training, awareness raising, material support, training abroad) a short report of the event should be produced containing all relevant information and summarizing the result (date, location, schedule, trainers, participants, information materials, results, feedback; MM3.5.3)
24. **Improve monitoring:** Establish lists of trainings conducted (with gender-segregated data), list of equipment provided, experts deployed, etc. to be updated regularly so that monitoring data do provide an appropriate overview about the present status of the project and for steering (MM3.5.4, Ch5.1.3-D3), improve indicator monitoring, monitoring of milestones, activity monitoring, monitoring of partner contributions, monitoring of risks or assumptions (MM3.5.4)
25. **Improve evaluation and learning:** At the end of each training, easy-to-analyse evaluation forms should be filled by the participants which should be analyzed after each training and used for improving the next training (MM3.5.3), documentation of best practices and learnings for internal and external audience (MM3.5.5), develop a concept for systematic knowledge management (MM3.5.5)

Recommendations to the International Cooperation Department (Group 9.3)

26. Conduct training for PTB staff and Local Coordinators in stakeholder analysis and other Capacity WORKS tools (MM3.5.1)
27. Ensure the support of the EAC PT provider in obtaining accreditation or inform PTB projects using the EAC PT provider to possibly seek alternative PT providers (MM 3.3.2)
28. Support the transfer of information for new PTB project staff and iSTE (e.g. mandatory documentation of processes, standardized rules for file names, joint knowledge management and exchange of learning experiences, MM3.1)
29. Adjust PTB finance monitoring to support projects in steering and implementation (MM3.5.7)

30. Assure that evaluators get updates of project data (finance, trainings, expert deployment, equipment) before their departure and new expert reports as soon as these arrive at PTB (MM3.5.8)
31. Support project staff to implement the gender strategy which will be developed by the two recently deployed gender experts (Ch6.2)

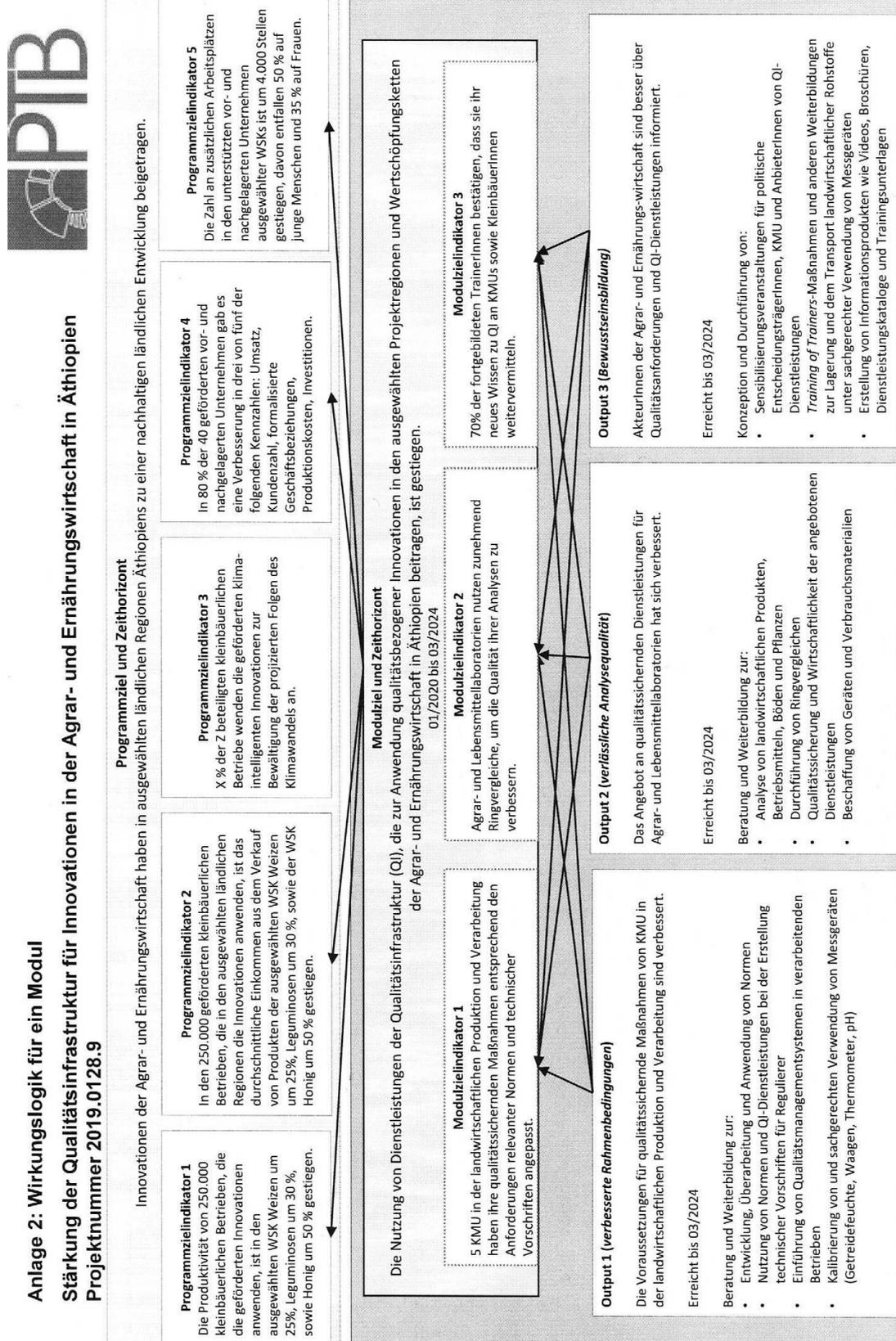
Recommendations to the evaluation unit of Working Group 9.01

32. Take care that the specific evaluation questions do not overload the limited time available during an evaluation (Ch4.1)
33. Assure that the implementation of the recommendations of evaluations (follow-up sheet) is regularly monitored
34. Have the English translations of the EVA documents translated by a native English speaker to get comprehensible, easy-to-read texts, not direct translations of the German wording. He/she should be up-to-date with the special language of development cooperation (e.g., Wirkungsmatrix, -logik)
35. Consider developing a different format for Chapter 5 (Evaluation results) of the report – the present format based on the OECD/DAC criteria with very detailed questions to be answered on a limited number of pages does not provide sufficient room for background information of recommendations. To what extent can such reports support improvements and learning processes of partners?

9. Annexes to the evaluation report

1. Intervention logic
 - a) from project proposal
 - b) from Project Report No. 1
2. Results Matrix (from the module proposal)
3. Evaluation schedule, schedule of the field phase/data acquisition, list of contact persons, and references used
4. Questionnaires used
5. Kick-off Workshop results (23/10/2023)
6. Handout of the Debriefing Workshop (30/10/2023)
7. QI Projects in Ethiopia
8. Achievement of indicators
9. NQIDP indicators measuring the use of QI services

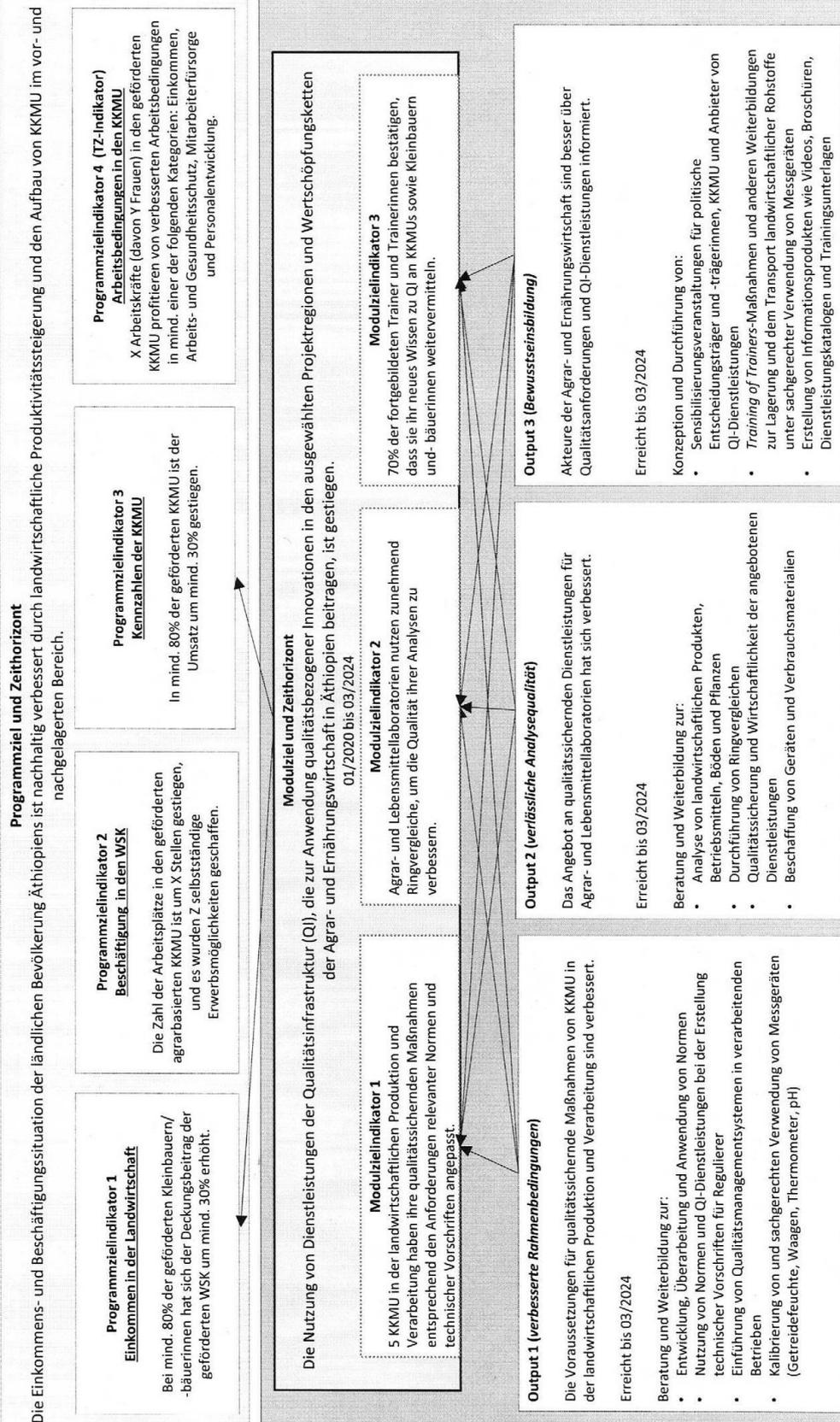
Annex 1: Intervention logic – a) from project proposal



Annex 1: Intervention logic – b) from Project Report No. 1



Anlage 2: Wirkungslogik für ein Modul
 Stärkung der Qualitätsinfrastruktur für Innovationen in der Agrar- und Ernährungswirtschaft in Äthiopien
 Projektnummer 2019.0128.9



Wirkungslogik für ein Modul

Version 04.2019

Annex 2: Results Matrix (from the module proposal)



Annex 1: Impact Matrix of the Module

Designation of the TC Module
Strengthening of the Quality Infrastructure for Innovations in the Agricultural
and Food Sectors in Ethiopia

Country/Region/globally/non-regionally
Ethiopia

Project Number
2019.0128.9

Impact Matrix compiled on:
4 September 2019

Term
01/2020 to 03/2024

Objectives	Indicators	Sources	Assumptions
Programme Objective Innovations in the agricultural and food sectors have contributed to a sustainable rural development in selected rural regions of Ethiopia.	Programme Objective Indicator 1 The productivity of 250,000 smallholder farms applying the promoted innovations has increased in the selected value chains (VCs) of wheat by 25 %, legumes by 30 %, and honey by 50 %. Baseline: VC wheat: 1.9 t/ha, VC legumes: 1.6 t/ha, VC honey: 100 kg/farm Target value: VC wheat: 2.4 t/ha, VC legumes: 2.1 t/ha, VC honey: 200 kg/farm Actual value: VC wheat: 2.7 t/ha, VC legumes: 1.6 t/ha, VC honey: 100 kg/farm	Baseline Survey, annual surveys as part of the monitoring system Reports of the participating service providers Documentation of Memoranda of Understanding and other agreements	not applicable
	Programme Objective Indicator 2 For the 250,000 subsidised smallholder farms that apply the innovations in the selected rural regions, the average income from the sale of products of the selected VCs has increased by 25 % for wheat, by 30 % for legumes, and by 50 % for honey. Baseline: VC wheat: 8,055 ETB/ha (292 EUR/ha); VC legumes: 15,426 ETB/ha (558 EUR/ha); VC honey: 12,000 ETB/farm (434 EUR/farm) Target value: VC wheat: 10,069 ETB/ha (365 EUR/ha); VC legumes: 20,053 ETB/ha (726 EUR/ha); VC honey: 24,000 ETB/farm (869 EUR/farm) Actual value: VC wheat: 11,437 ETB/ha (414 EUR/ha); VC legumes: 14,239 ETB/ha (515 EUR/ha); VC honey: XX,XXX ETB/farm (XXX EUR/farm)		
	Programme Objective Indicator 3		

Strengthening of the Quality Infrastructure for Innovations in the Agricultural and Food Sectors in Ethiopia
Project Number 2019.0128.9



Objectives	Indicators	Sources	Assumptions
Module Objective	<p>X % of the Z participating smallholder farms apply the promoted climate-intelligent innovations to cope with the projected consequences of climate change.</p> <p>Baseline: 0 % Target value: X Actual value: Will be determined within the scope of the progress report 2019.</p> <p>Programme Objective Indicator 4 In 80 % of the assisted upstream and downstream enterprises there was an improvement in three out of five of the following indicators: Turnover, number of customers, formalised business relations, production costs, investments.</p> <p>Baseline: 0 enterprises, with their respective key figures. Target value: 80 % of 40 companies, with their respective key figures. Actual value: Will be determined within the scope of the progress report 2019.</p> <p>Programme Objective Indicator 5 The number of additional jobs in the supported upstream and downstream enterprises of selected VCs has increased by 4,000 jobs, of which 50 % are provided for young people and 35 % for women.</p> <p>Baseline: 0 additional jobs. Target value: 4,000 additional jobs, of which 2,000 (50 %) for young people and at least 1,400 (35 %) for women, differentiated according to VC and – within VC – according to gender and age. Actual value: 635 additional jobs, of which 350 are provided for young people (55 %) and 102 for women (16 %).</p>	Audit reports	



Strengthening of the Quality Infrastructure for Innovations in the Agricultural and Food Sectors in Ethiopia

Project Number 2019.0128.9

Objectives	Indicators	Sources	Assumptions
<p>The use of quality infrastructure (QI) services which contribute to the application of quality-related innovations in the selected project regions and value chains of the agricultural and food sectors in Ethiopia has increased.</p>	<p>5 SMEs from the agricultural production and processing sector have adapted their quality assurance measures to the requirements of relevant standards and technical regulations.</p> <p>Baseline: 0 Target value: 5</p>		<p>Smallholder farms are open to quality assurance aspects</p>
	<p>Module Outcome Indicator 2 Agricultural and food laboratories are increasingly using interlaboratory comparisons to improve the quality of their analyses.</p> <p>Baseline: In the period of 2016-2018 Ethiopian laboratories participated in a total of 113 interlaboratory comparisons. Target value: In the period of 2020-2023 Ethiopian laboratories participated in a total of 135 interlaboratory comparisons.</p>	<p>Reports of interlaboratory comparisons</p> <p>Laboratory survey</p>	
<p>Module Output 1 The conditions for quality assurance measures to be taken by SMEs from the agricultural production and processing sector are improved.</p>	<p>Module Outcome Indicator 3 70 % of the trained trainers confirm that they pass on their new knowledge of QI to SMEs and smallholder farmers.</p> <p>Baseline: 0 Target value: 70 %.</p>	<p>Documentation of additional training measures carried out by trainers who have received training themselves</p> <p>Interviews with trainers</p>	<p>There is sufficient political support (e.g. in the form of legislation) to stimulate the demand for QI services.</p>
	<p>Module Output Indicator 1.1 5 standards or technical regulations on quality criteria have been elaborated or updated.</p> <p>Baseline: 0 Target value: 5</p> <p>Module Output Indicator 1.2</p>	<p>Documented service offer of the Ethiopian Standards Agency</p> <p>Documentation of SMEs</p>	
		<p>Documented range of services of the National Metrology Institute</p>	<p>SMEs are open to QI topics and would like to obtain more services in the country.</p>



Strengthening of the Quality Infrastructure for Innovations in the Agricultural and Food Sectors in Ethiopia

Project Number 2019.0128.9



Objectives	Indicators	Sources	Assumptions
	<p>The National Metrology Institute is able to calibrate the customers' measuring instruments for air and grain moisture according to international specifications.</p> <p>Baseline: 0 Target value: 1</p>		
<p>Module Output 2 The range of quality assurance services for agricultural and food laboratories has improved.</p>	<p>Module Output Indicator 2.1 Local conformity assessment bodies offer 5 new services based on international requirements for assessing the quality of agricultural inputs, manufacturing processes or products.</p> <p>Baseline: 0 Target value: 5</p>	<p>Documented range of services of the conformity assessment bodies</p>	<p>The relevant QI institutions have the necessary human and financial resources to establish the services and operate them sustainably. SMEs have the necessary human and financial resources to demand QI services.</p>
	<p>Module Output Indicator 2.2 A national provider of interlaboratory comparisons operates in accordance with the ISO/IEC 17043 standard.</p> <p>Baseline: 0 Target value: 1</p>	<p>Reports of internal audits or external assessment (if carried out)</p>	<p>Local conformity assessment bodies have access to interlaboratory comparisons provided by international providers.</p>
<p>Module Output 3 Stakeholders from the agricultural and food sectors are better informed about</p>	<p>Module Output Indicator 3.1 5 additional target group-oriented information products of the QI institutions are available.</p> <p>Baseline: 0 Target value: 5</p>	<p>Documentation of information products</p>	

Strengthening of the Quality Infrastructure for Innovations in the Agricultural and Food Sectors in Ethiopia
Project Number 2019.0128.9



Objectives	Indicators	Sources	Assumptions
quality requirements and QI services.	<p>Module Output Indicator 3.2</p> <p>10 sensitisation or training events (training of trainers) on QI in the agricultural and food sectors were carried out.</p> <p>Baseline: 0 Target value: 10</p>	List of participants	Sensitised or trained persons remain in their institutions and responsibilities during the module term.

Outputs	Key Activities per Output	Inputs / Instruments planned	Assumptions
Output 1	<ul style="list-style-type: none"> - Consulting and training on <ul style="list-style-type: none"> o Elaboration, revision and application of standards o Use of standards and QI services in the elaboration of technical regulations based on international good practices for regulators o Introduction of quality management systems in processing companies o Calibration and proper use of measuring instruments in the field of grain moisture, scales, thermometry and pH - Procurement of equipment and consumables 	1 long-term staff member (PTB Project Coordinator) X short-term consultant assignments, incl. intermittent consultant Equipment and consumables 50,000€	There are no additional assumptions beside the ones mentioned above.
Output 2	<ul style="list-style-type: none"> - Consulting and training on <ul style="list-style-type: none"> o Analysis of agricultural products, inputs, soils and plants o Performing interlaboratory comparisons o Quality assurance and cost-effectiveness of the services offered o Procurement of equipment and consumables 	1 long-term staff member (PTB Project Coordinator) X short-term consultant assignments, incl. intermittent consultant Equipment and consumables 110,000€	
Output 3	<ul style="list-style-type: none"> - Conceptualisation and implementation of <ul style="list-style-type: none"> o sensitisation events for political decision-makers, SMEs and providers of QI services o training of trainer measures and other training formats on the storage and transportation of agricultural raw materials using measuring instruments appropriately 	1 long-term staff member (PTB Project Coordinator) X short-term consultant assignments, incl. intermittent consultant	



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	- Elaboration of information products such as videos, brochures, service catalogues and training documents	Equipment and consumables 50,000€	
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Annex 3: Evaluation schedule, schedule of the field phase/data acquisition, list of contact persons, and references used

Annex 3.1 Evaluation schedule including field phase/data acquisition

Date	Day	Activity
19.07.23	Wed	Preparatory meeting (online) EVA, PC, CM, RL (partly)
11.08.23	Fri	Submission Inception Report 1st Draft (for PTB)
18.08.23	Fri	First online discussion PC, LC, CM
20.08.23	Fri	Submission Inception Report 2nd Draft (for Partners)
31.08.23	Fri	Second online discussion PC, LC, CM
06.09.23	Wed	Third online discussion PC, LC, CM
12.09.23	Wed	Submission Inception Report Final Version
25.09.23	Mon	Fourth online discussion PC, LC, CM
26.09.23	Tue	Fourth online discussion (cont.) LC, CM Sending out Capacity WORKS Self-Assessment Questionnaires (PC, former PC, former iKZE, LC)
09.10.23	Mon	14:00 Interview Ms Svenja Kirsch, Project Manager, Green Innovation Centres for the Agriculture and Food Sector – Ethiopia, Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH
10.10.23	Tue	13:00 Interview Mr. Daniel Lambart, iKZE (2023)
11.10.23	Wed	9:00-10:10 Interview Ms Deborah Perilla, née Alt, former PTB Project Assistant (until July 2021), 10:15-10:50 Interview Ms Wiebke Müller, PTB Project Assistant (since May 2023), 16:30-17:30 Interview Mr. Ralf Arning, former iKZE (2021-2022), 19:00-21:45 Interview Mr. Jonathan Krull, former PC (2020-2021)
12.10.23	Thu	9:00 Interview Ms Dr. Christine Fröse, technical expert for PTB, support for SMEs and laboratories (2021-2023), 10:15-11:15 Interview Dr. Steffen Schulz, Project Manager, Integrated Soil Fertility Management Project in Ethiopia (ISFM+), GIZ, and Dr. Teklu Erkossa, Project Manager, Supporting Soil Health Interventions in Ethiopia (SSHI), GIZ, 11:50-12:00 Telephone discussion with Ms. Rebecca Bahrmann, International Cooperation (Abt. 9.3), responsible for Knowledge Management, PTB
13.10.23	Fri	Discussion among consultants
14.10.23	Sat	
15.10.23	Sun	
16.10.23	Mon	13:00 Interview Mr. Tesfaye Haile, General Secretary, EMA, 14:30 Interview Mr. Ukeme Ochong Archibong, PC, PTB
17.10.23	Tue	9:00 Interview Mr. Daniel Hess, Project Manager, Supporting Sustainable Agricultural Productivity Programme (SSAP) in Ethiopia, Agricultural Mechanisation for Smallholder Farmers (AMS) in Ethiopia, Better Incomes Through Improved Barley Production (BITIB) Partnership in Ethiopia, GIZ, 17:00 Interview Ms Haymanot Asfaw, former DG/General Secretary, EMA
18.10.23	Wed	10:00 Interview Ms Andrea Wilhemi-Somé, Programme Director, Promotion of Agricultural Productivity (PAP), GIZ, 13:00 Interview Mr. Musefa Redi, former Quality Manager for Laboratories and PT Coordinator, Holetta Agricultural Research Centre (HARC), since 09/2022 PhD student at Wageningen University
19.10.23	Thu	12:00 Interview Dr. Tadesse Dessalegn, Wheat Value Chain Advisor, Green Innovation Centres for the Agriculture and Food Sector – Ethiopia, GIZ

20.10.23	Fri	
21.10.23	Sat	CM Flight to Ethiopia: 15:10 - 16:25, Berlin - Vienna, OS 230, 22:05 - 05:25 (+1), Vienna - Addis Ababa, OS 7151
22.10.23	Sun	7:00 Arrival in Swiss Inn Nexus Hotel, Preparation of Kick-off Workshop, 15:00 Meeting among consultants to discuss Kick-off Workshop, Dinner with Dr. Jürgen Greiling, former Senior Advisor, Ethiopian Apiculture Board, Centre for International Migration and Development (CIM), and Ms Alem Greiling, QI end user (small-scale producer of Quaker oats and muesli), about recent development of QI in Ethiopia
23.10.23	Mon	9:00-12:30 Kick-off Workshop, introduction of participants, introduction to the evaluation, presentation of evaluation schedule, participatory evaluation by workshop participants (gender questionnaire, cards on pinboards about highlights and areas for improvement, questionnaire of OECD/DAC evaluation criteria and project management), 14:00 Interview Mr. Esayas Lemma, CEO, Crop Development Office, MoA, Travel to Bless, Legetafo Town, Sheger City, Oromia Regional State (40 min), 15:40 Interview Mr. Habtamu Gasnaw, Quality Assurance Manager, BLESS Agri-Food Laboratory Services PLC, visit of laboratories, Travel back to hotel (40 min), 17:45-19:30 Interview laboratory support consultants (Mr. Mulugeta Mekonnen, Bilbas Integrated Management Consultants Plc., Mr. Gemechu Sorsa, CheMed Scientific)
24.10.23	Tue	7:30 Interview Mr. Wondwosen Fisseha, former Project Coordinator (until 2022), National Quality Infrastructure Development Project (NQIDP; Worldbank), 9:00 Interview Mr. Yilma Mengistu, Director of Standards Development Directorate, and Mr. Hiwot Hibste, Expert, Standards Development Directorate, Institute of Ethiopian Standards (IES), 10:30 Interview Dr. Mulugeta Derebew, Director General (DG), Ethiopian Metrology Institute (EMI), 12:15 Lunch break, local SIM card, 14:00 Visit laboratories at Ethiopian Conformity Assessment Enterprise (ECAE), Interview Mr. Zerihun Abebe, Biochemical Testing Laboratory Director, Ms Abeba, Testing Laboratory Quality Manager, Mr. Mitiku Diriba, Teamleader, Agricultural Testing Laboratories, ECAE, 15:15 Interview Mr. Tadesse Gergiso, Director of Scientific Metrology, EMI, President of ELA, 16:30 Discussion among consultants, typing of Kick-off Workshop results
25.10.23	Wed	7:30 Departure from Hotel, 8:30 Visit laboratories of Oromia Agricultural Research Institute (OARI; regional agency, under OSTA), discussion with Dr. Dereje Woltedji, Director, Food Science Research, Dr. Yared Merdassa, Quality Manager, Food Testing Laboratory, Dr. Mafarsa Dhaka, Team Leader, Food Chemistry and Nutrition Research, 10:00 Discussion at Animal Product and Input Quality Testing Center (APIQTC; federal agency, under EAA) with Dr. Belachew Tefera, Director, APIQTC, Dr. Belachew Bacha, Director, Physical Chemical Laboratory, Dr. Zerihun Abegaz, Director, Quality Assurance, Mr. Biniam Mulugeta, Head, Animal Product and Feed Quality Testing Desk, Dr. Fanuel Fikiremariam, Animal Product and Feed Quality Analyst, visit of laboratories, 12:15 Drive to OSTA, lunch, 14:00 Interview Dr. Lejalem Ayele, Deputy DG, Mr. Getachew Feyisa, Director, QI Directorate, Oromia Science and Technology Authority (OSTA), visit of small laboratory, 16:00 Drive to hotel,

		17:00 Interview Dr. Mulat Abegaz Legesse, QITC Consultants (SME consultant)
26.10.23	Thu	7:15 Departure from Hotel, Drive to Burayu Subtown, Sheger City, Oromia Regional State, 8:30 Visit Booez Food Complex Plc. (pasta, macaroni), Interview Mr. Gadissa, Operational Manager, Teamleader for implementation of the PTB project, Mr. Mesfint, Production Technique Manager, visit production, packing, storage facilities to see the changes made after the PTB support, Drive to Tatek Zone, Sheger City, Oromia Regional State, 10:00 Visit Yamrot Food Complex (flour, pasta, spaghetti, macaroni), interview Mr. Aresahegn, HR, Ms Abeba Meselle, Flour Manager, sister of owner and founder, Mr. Gezehegn, Quality Manager, Mr. Assegid, Technical Manager, Mr. Hawere, Hygiene and Sanitation Officer, Mr. Simeneh, Flour Production Manager, visit production and storage facilities to see the changes made after the PTB support, Drive to Holeta Agricultural Research Centre (HARC), 14:00-17:10 Visit laboratory facilities at HARC, courtesy visit to Mr. Getu, Acting Centre Director, interview Mr. Mihretu Bedassa, Researcher, Soil Laboratory Head, Mr. Kebede Dinkecha, Soil Laboratory Researcher, Mr. Gebreyes Gurmu, Researcher in Soil Science, PhD candidate, former Director, Natural Resource Management, EIAR 19:00 Arrival at hotel
27.10.23	Fri	7:30 Departure from Hotel, 8:30 Interview Mr. Fisseha Teshome, Director, Plant Varieties and Seed Regulatory Directorate, Ethiopian Agricultural Authority (EAA; former Director of Plant Variety Release and Seed Quality Control, MoA), 10:00 Discussion with His Excellency Mr. Endalew Mekonen, State Minister, Quality Infrastructure and Assurance Sector, Ministry of Trade and Regional Integration (MoTRI), and LC, 11:00 Discussion with Mr. Girma Mamo, since 8 months Project Coordinator and Technical Advisor, NQIDP, Mr. Tamrat, Social and Environmental Safeguard, NQIDP, and LC, 14:00 Telephone talk to Mr. Abebe Anagaw, Representative for Deputy Director, Amhara Regional Bureau of Agriculture, Bahir Dar, Discussion with consultants and LC about Monday Debriefing, Preparation of discussion among consultants
28.10.23	Sat	Discussion among the consultants, data analysis, preparation of handout (Minutes of Meeting) for the Debriefing Workshop
29.10.23	Sun	Discussion among the consultants, data analysis, preparation of handout (Minutes of Meeting) for the Debriefing Workshop, Feedback from PC on Minutes of Meeting and Welcome Speech
30.10.23	Mon	Debriefing Workshop of the evaluation with partners for validation
31.10.23	Tue	CM Flight 01:35 - 05:55 Addis Ababa - Vienna, OS 7152, 09:20 - 10:35 Vienna - Berlin, OS 225

Annex 3.2 List of contact persons

1. Zoom interviews (09-19/10/2023)

1.1 PTB

1. Mr. Ukeme Ochong Archibong, PC, PTB
2. Mr. Jonathan Krull, former PC (2020-2021)
3. Ms. Rebecca Bahrmann, PTB, International Cooperation (Abt. 9.3), responsible for Knowledge Management
4. Ms Deborah Perilla, née Alt, former PTB Project Assistant (until July 2021)
5. Ms Wiebke Müller, PTB Project Assistant (since May 2023)
6. Mr. Ralf Arning, former iKZE (2021-2022)
7. Mr. Daniel Lambart, iKZE (2023)
8. Ms Dr. Christine Fröse, technical expert for PTB, support for SME and laboratories (2021-2023)

1.2 GIZ

9. Ms Andrea Wilhemi-Somé, Programme Director, Promotion of Agricultural Productivity (PAP), GIZ
10. Ms Svenja Kirsch, Project Manager, Green Innovation Centres for the Agriculture and Food Sector – Ethiopia, GIZ
11. Mr. Dr. Tadesse Dessalegn, Wheat Value Chain Advisor, Green Innovation Centres for the Agriculture and Food Sector – Ethiopia, GIZ
12. Mr. Dr. Steffen Schulz, Project Manager, Integrated Soil Fertility Management Project in Ethiopia (ISFM+), GIZ
13. Mr. Dr. Teklu Erkossa, Project Manager, Supporting Soil Health Interventions in Ethiopia (SSHI), GIZ
14. Mr. Daniel Hess, Project Manager, Supporting Sustainable Agricultural Productivity Programme (SSAP) in Ethiopia, Agricultural Mechanisation for Smallholder Farmers (AMS) in Ethiopia, Better Incomes Through Improved Barley Production (BITIB) Partnership in Ethiopia, GIZ

1.3 Ethiopian Millers Association (EMA)

15. Mr. Tesfaye Haile, General Secretary, EMA
16. Ms Haymanot Asfaw, former DG/General Secretary, EMA

1.4 Holeta Agricultural Research Centre (HARC)

17. Mr. Musefa Redi, former quality Manager for Laboratories and PT Coordinator, Holeta Agricultural Research Centre (HARC), since 09/2022 PhD student at Wageningen University

2. Discussions in Ethiopia (23-27/10/2023)

1. Ministry of Agriculture (MoA)

- Mr. Esayas Lemma, CEO, Crop Development Office, MoA

Ethiopian Agricultural Authority (EAA)

- Mr. Fisseha Teshome, Director, Plant Varieties and Seed Regulatory Directorate (former Director of Plant Variety Release and Seed Quality Control, MoA), responsible for APIQCT

Ethiopian institute of Agricultural Research (EIAR)

- none (*Mr. Dr. Temesgen Desalegn, responsible for HARC, was travelling during the week of data collection of the evaluation; he had returned at the time of the Debriefing Workshop but did not attend, he was represented by Mr. Gebreyes Gurmu, Researcher, former Director, Natural Resource Management Directorate, EIAR, now PhD student*)

2. Ministry of Trade and Regional Integration (MoTRI)

- His Excellency Mr. Endalew Mekonen, State Minister, Quality Infrastructure and Assurance Sector

Institute of Ethiopian Standards (IES)

- Mr. Mengistu Tefera, Director, Training Academy Directorate
- Mr. Yilma Mengistu, Director, Standards Development Directorate, IES
- Mr. Hiwot Hibste, Expert, Standards Development Directorate, IES

Ethiopian Metrology Institute (EMI)

- Mr. Dr. Mulugeta Derebew, since 2 months DG, before: Technical Advisor of EMI
- Mr. Tadesse Gergiso, Director of Scientific Metrology, EMI

Ethiopian Conformity Assessment Enterprise (ECAE)

- Mr. Abel Anberbir, Deputy DG
- Mr. Zerihun Abebe, Biochemical Testing Laboratory Director
- Ms Abeba, Testing Laboratory Quality Manager
- Mr. Mitiku Diriba, Teamleader, Agricultural Testing Laboratories

3. Regional State Agencies

Oromia Science and Technology Authority (OSTA)

- Mr. Dr. Lejalem Ayele, Deputy DG
- Mr. Getachew Feyisa, Director, QI Directorate

Regional Bureau of Agriculture

- Mr. Ababe Anagaw, Representative for Deputy Director, Amhara Regional Bureau of Agriculture, Bahir Dar

4. Laboratories supported

Ethiopian Laboratory Association (ELA)

- Mr. Tadesse Gergiso, Director of Scientific Metrology, EMI, President of ELA

Oromia Agricultural Research Institute (OARI; regional agency, under OSTA)

- Mr. Dr. Dereje Woltedji, Director, Food Science Research
- Mr. Dr. Yared Merdassa, Quality Manager, Food Testing Laboratory
- Mr. Dr. Mafarsa Dhaka, Team Leader, Food Chemistry and Nutrition Research

Animal Product and Input Quality Testing Center (APIQTC; federal agency, under EAA)

- Mr. Dr. Belachew Tefera, Director
- Mr. Dr. Belachew Bacha, Director, Physical Chemical Laboratory
- Mr. Dr. Zerihun Abegaz, Director, Quality Assurance
- Mr. Biniam Mulugeta, Head, Animal Product and Feed Quality Testing Desk
- Mr. Dr. Fanuel Fikiremariam, Animal Product and Feed Quality Analyst

Holeta Agricultural Research Centre (HARC, federal agency, under EIAR)

- Mr. Getu, Acting Centre Director (courtesy visit)
- Mr. Mihretu Bedassa, Researcher, Soil Laboratory Head
- Mr. Kebede Dinkecha, Soil Laboratory Researcher
- Mr. Gebreyes Gurmu, Researcher in Soil Science doing trial at HARC, PhD candidate, former Director, Natural Resource Management, EIAR

Private agri-food laboratory

- Mr. Habtamu Gasnaw, Quality Assurance Manager, BLESS Agri-Food Laboratory Services PLC, Legetafo Town, Sheger City, Oromia Regional State

5. Small and medium enterprises (SMEs) supported**Ethiopian Millers Association (EMA)**

- Mr. Tesfaye Haile, General Secretary, EMA (see Zoom list above)
- Ms Haymanot Asfaw, former DG/General Secretary, EMA (see Zoom list above)

Booez Food Complex Plc. (pasta, macaroni), Burayu Subtown, Sheger City, Oromia Regional State

- Mr. Gadissa, Operational Manager, Teamleader for implementation of the PTB support
- Mr. Mesfint, Production Technique Manager

Yamrot Food Complex (flour, pasta, spaghetti, macaroni), Tatek Zone, Sheger City, Oromia Regional State

- Mr. Gezehegn, Quality Manager
- Mr. Aresahegn, Human Resources
- Mr. Assegid, Technical Manager
- Mr. Hawere, Hygiene and Sanitation Officer
- Mr. Simeneh, Flour Production Manager
- Ms Abeba Meselle, Flour Manager, sister of owner and founder

6. Project consultants

- Mr. Dr. Mulat Abegaz Legesse, QITC Consultants, SME consultant
- Mr. Mulugeta Mekonnen, Bilbas Integrated Management Consultants Plc., laboratory support consultant
- Mr. Gemechu Sorsa, CheMed Scientific, laboratory support consultant

7. Other projects

- Mr. Dr. Tadesse Dessalegn, Wheat Value Chain Advisor, Green Innovation Centres for the Agriculture and Food Sector – Ethiopia, GIZ (see 1. Zoom interviews)
- Mr. Wondwosen Fisseha, former Project Coordinator (until end 2022), National Quality Infrastructure Development Project (NQIDP; Worldbank)
- Mr. Girma Mamo, since 8 months Project Coordinator and since 2 years Technical Advisor, NQIDP; Worldbank
- Mr. Tamrat, Social and Environmental Safeguard, NQIDP; Worldbank

8. Others

- Mr. Dr. Jürgen Greiling, former Senior Advisor, Ethiopian Apiculture Board, Centre for International Migration and Development (CIM), involved in preparations of the project
- Ms Alem Greiling, QI end user (small-scale producer of Quaker oats and muesli)

Annex 3.3: References used

- BMZ, 2008: Das „Engineering Capacity Building Program“ in Äthiopien. Kurzfassung der Evaluierung. BMZ Evaluierungsberichte 038. Juli 2008. silo.tips/download/das-engineering-capacity-building-program-in-thiopien-kurzfassung-der-evaluierung
- BMZ, 2021: Sustainable Agri-Food Systems - A World without Hunger. BMZ Strategies. BMZ PAPER 5 | 2021. Core Area Strategy. www.bmz.de/resource/blob/100758/bmz-core-area-strategy-a-world-without-hunger.pdf
- BMZ, 2023: Feminist Development Policy For Just and Strong Societies Worldwide. April 2023. www.bmz.de/en/issues/feminist-development-policy
- GIZ, 2018: Ethiopia: National Quality Infrastructure (NQI) Reform. Project evaluation: summary report. mia.giz.de/cgi-bin/getfile/53616c7465645f5f2259e671c009fac5dec47b9df228587596e54605c875331afbc479730e92455565cc5cedfd43c492d03953ba90bf76619c63ea555d2c8322/giz2018-0230en-projectevaluation-ethiopia-nqi-pev.pdf
- PTB, 2008: Liste der Projekte. www.ptb.de/cms/fileadmin/internet/publikationen/jahresberichte/Jahresbericht_2008/entwprojekte.pdf
- PTB, 2012: Lists of projects under implementation www.yumpu.com/en/document/view/11189273/list-of-projects-under-implementation-ptb
- World Bank website, Ethiopia: National Quality Infrastructure Development Project, projects.worldbank.org/en/projects-operations/project-detail/P160279 (Access 4.11.2023)
- World Bank, 2017: Project Appraisal Document on a proposed credit in the amount of SDR 37.2 Million (US\$50 Million Equivalent) to the Federal Democratic Republic of Ethiopia for a Ethiopia:National Quality Infrastructure Development Project, Report No: PAD2097. International Development Association. March 6, 2017; documents.worldbank.org/en/publication/documents-reports/documentdetail/356301491184824880/ethiopia-national-quality-infrastructure-development-project

Annex 4: Questionnaires used

4.1 Gender mainstreaming questionnaire (Kick-off Workshop, results see Annex 5)

Evaluation of PTB - MoA Project “Strengthening of the Quality Infrastructure for Innovations in the Agricultural and Food Sector in Ethiopia”,
Kick-off Workshop, Oct. 23, 2023

Gender Mainstreaming Questionnaire

Your name:

1. Does your institution have a Gender Unit? Yes No I don't know
2. How many staff are in the Gender Unit? ___ persons (___ men, ___ women), I don't know
3. Is the Gender Unit staff only responsible for gender issues, Yes No I don't know
or is gender an additional task for the staff? Yes No I don't know
4. Are you a member of the Gender Unit? Yes No
5. Does your institution have a Gender Action Plan? Yes No I don't know

6. What potentials existed in the PTB-MoA project to promote gender mainstreaming?

Potentials to promote gender mainstreaming that were used	Potentials to promote gender mainstreaming that were not used

7. What concrete measures could be put in place to promote gender mainstreaming in future quality infrastructure projects of PTB in Ethiopia?

4.2 Questionnaire on OECD/DAC criteria and Capacity WORKS factors (Kick-off Workshop, results see Annex 5)

**Evaluation of PTB - MoA Project “Strengthening of the Quality Infrastructure for Innovations in the Agricultural and Food Sector in Ethiopia”,
Kick-off Workshop, Oct. 23, 2023**

Evaluation Questionnaire

Your name:

OECD/DAC Evaluation Criteria

		1	2	3	4	5	6	7	8	9	10
1.	Relevance – Is the project doing the right things?										
2.	Coherence – How well does the project fit (with other interventions in the country and the sector)?										
3.	Effectiveness – Is the project achieving its objectives?										
4.	Impacts/higher-level development results – What difference does the project make/In which way is the project contributing to overarching development goals such as poverty reduction or health?										
5.	Efficiency – Are the objectives achieved cost-effective?										
6.	Sustainability – Will the benefits last/Are the positive results durable?										

10: very good; 1: very bad

Project Management

		1	2	3	4	5	6	7	8	9	10
7.	Strategy – Do we do the rights things? Degree of satisfaction										
8.	Cooperation – Who is it included in the cooperation and how? Degree of satisfaction										
9.	Steering Structure – How do we plan and make decisions? Degree of satisfaction										
10.	Processes – How do we influence the processes for change? Degree of satisfaction										
11.	Learning – What do we learn and how? Degree of satisfaction										

10: very good; 1: very bad

Annex 5: Kick-off Workshop results (23/10/2023)

Evaluation of the PTB – MoA project “Strengthening of the Quality Infrastructure for Innovations in the Agricultural and Food Sector in Ethiopia”

Kick-off Workshop

Swiss Inn Nexus Hotel, Addis Ababa,

Oct. 23, 2023; 9:00-12:30

Participants

1. Mr. Esayas Lemma, CEO, Crop Development Office, MoA (until Coffee Break)
2. Mr. Fisseha Teshome, Director, Plant Varieties and Seed Regulatory Directorate, EAA
3. Mr. Gebreyes Gurmu, former Director, Natural Resource Management Directorate, EIAR, now PhD Researcher, representing EIAR, not much involved in PTB project (his answers were omitted in the analyses of the gender and OECD/DAC questionnaire)
4. Mr. Yilma Mengistu, Director, Standards Development Directorate, IES
5. Mr. Dr. Mulugeta Derebew, DG, EMI
6. Mr. Tadesse Gergiso, Director, Scientific Metrology, EMI
7. Mr. Abel Anberbir, Deputy DG, ECAE
8. Mr. Getachew Feyisa, Director, QI Directorate, OSTA
9. Mr. Dr. Dereje Woltedji, Director, Food Science Research, OARI
10. Mr. Dr. Fanuel Fikiremariam, Animal Product and Feed Quality Analyst, APIQTC
11. Mr. Mihretu Bedassa, Researcher, Soil Laboratory Head, HARC
12. Mr. Kassegne Kebede, Local Coordinator, PTB Consultant
13. Mr. Dr. Franz Hengstberger, Technical Evaluator, PTB Consultant
14. Ms Dr. Christine Martins, Key Evaluator, PTB Consultant

Structure

Discussion on changes since last PTB evaluation (July 2019)
Introduction of participants
Objectives of the evaluation
What is evaluated – project overview
Questions to be answered by the evaluation
Evaluation methods
Evaluation schedule
Discussion of open issues
Participatory evaluation

1. Changes since July 2019 (group photo 2019 evaluation debriefing workshop)

- Restructuring of Ethiopian gvt. structure (new ministry structure, new mandates and new names of gvt. institutions), EAA
- Staff turn-over
- COVID 19
- Conflicts in Ethiopia
- Climate change
- Ukraine war
- BRICS
- Hamas – Israel

- Irrigated wheat
- From food security to food system transformation
- PTB: More partner-oriented

2. Gender questionnaire

Results of the Gender questionnaire part 2

What potentials existed in the PTB-MoA project to promote gender mainstreaming?		What concrete measures could be put in place to promote gender mainstreaming in future quality infrastructure projects of PTB in Ethiopia?
Potentials to promote gender mainstreaming that were used	Potentials to promote gender mainstreaming that were not used	
Trainings PT Comparison	Involvement of farmers/business women	Capacity building of business women training in value addition of agricultural producers on quality assurance, Supporting women processors
(answer not related to question)		To give example trainings and further work ample amount of resources should be allocated, frequently there should be status report in this regard
Training priority (a girl expert was sent to NMISA)		Support the daycare facility in EMI Support low salary EMI staff for skills development to support themselves by parttime jobs Strengthen giving the priority in technical training
It promotes the females to be encouraged and take priorities like on training	Strengthen the daycare of the children of the institute	Encouraging more on training and some incentive for female experts of the institute
To encourage more the engagement and participation in standardization To promote gender-responsive standards	To further include activities in food and agriculture sector to support female entrepreneur SME	Gender-responsive standards and participation in standardization and quality assurance Further women involved in SME, and entrepreneur for food production and export promotion
Provision of training in gender and gender mainstreaming		Networking and collaboration (experience sharing) with relevant bodies Provision of leadership and skills upgrading, educations and trainings for women Strengthening women in key and technical positions through capacity building
	Selecting and analyzing on gender mainstreaming: - Supporting female industry or business owners independently on quality - Gender experience sharing - Business to business meetings (discussions)	Making females aware on quality and quality infrastructure elements Establish a platform where one can get experience from others
Food quality (nutrition) improvement, small scale food processing	Involving small and micro enterprise associations/women and youth in food quality improvement plants, cottage industry	Strengthening the service-giving institutions, research labs, development institutions, infrastructures and trained human power. This will improve the capacity and skill of an organization/institutions to strongly and efficiently undertake gender mainstreaming activities
Support and initiation of inclusive work specially on training for both male and female		The support both in human capacity building and quality infrastructure should have gender issue as main stream
To promote a gender the PTB must support	Not supported in the past time years concerning gender issue	In training, workshop and experience sharing gender should be included in the plans

3. Participatory evaluation

3.1 Cards and pinboards

3.1.1 Personal highlights/great achievements/huge impacts

Standards

- Systematic review of standards and training manual
- While we are preparing standards for seed quality their support was with us
- Implementation of standards in some industries that can be used as a benchmark

Awareness

- Awareness of actors in agriculture on quality was improved
- Knowledge gained on the measurement in agriculture
- Simplified pictorial document training (awareness for Technical)
- Training material developed

Capacity building

- Capacity building (lab facility, standard chemicals purchase, staff training on accreditation, etc.)
- Capacity building (experience sharing)
- Capacity building - experience sharing
- Technical capacity building
- Training on the calibration of moisture tester instruments
- Human capacity building on quality assurance (short term training, consultancy service)
- Skill developments of EMI experts abroad

PTs and traceability

- PT provision
- PTs
- PT participation
- PT provision (soil and fertilizer)
- Support on quality infrastructure specially chemicals, CRM, supplies for honey pesticide residues
- Due to support of PT-coverage: accreditation and accreditation maintenance
- International traceability of standards
- The project covers/assists assessment of lab (national seed lab) for accreditation
- Is the first project to support one of our seed lab damaged by northern conflict

3.1.2 Areas for improvement

Equipment and chemicals

- Installation and operation of instruments (e.g., ICP-MS)
- Maintenance of equipment and instruments
- Lab equipment maintenance and installation
- Technical skill training – lab
- Laboratory chemicals and consumables
- Procurement of key standards and equipment
- Limited resource to fulfill QI like high-tech equipment for laboratories

Support areas

- Value added derived product standards for quality support (standards on processed goods (dried, powdered faba bean))

- Product specific support (only adhere to honey in our case), if it encompasses any other agri product like meat, milk, ...
- SME and smallholder producer support especially for food sector
- Accreditation of important measurement areas (EMI, e.g., moisture)
- Limited activities were considered: after the first phase we expect more activities

Training, capacity building, consultants

- Insufficient training for farmers
- No regular evaluation of activities

Plan and budget

- There is no plan alignment among project implementers (no integration, all institutions have individual plans)
- Clear project budget allocation was a matter and need to be corrected in the next phase
- Clear budget allocation, provision of CRM, support integration

Additional support requested

- As EAA we are intending to investigate all laboratories under it and a reform work are intended so we expect a great support from the next phase
- HARC:
 - Continued workshop on PT
 - Installation and maintenance of instruments and equipment from EIAR
 - Fully accommodation in country (transportation) – Training abroad: he did not get bus ticket and visa refunded
- Extending the capacity building
- Short-term consultancy on metrology (EMI, installation of new instruments and equipment, ongoing)

3.2 Evaluation Questionnaire (OECD/DAC Evaluation Criteria, Project Management)

3.2.1 OECD/DAC Evaluation Criteria

		1-4	5	6	7	8	9	10	Avg.	Rank
12.	Relevance – Is the project doing the right things?						1	8	9.9	No. 1
13.	Coherence – How well does the project fit (with other interventions in the country and the sector)?			1			2	6	9.3	No. 2
14.	Effectiveness – Is the project achieving its objectives?				1	4	4	0	8.3	No. 6
15.	Impacts/higher-level development results – What difference does the project make/In which way is the project contributing to overarching development goals such as poverty reduction or health?					3	5	1	8.8	No. 5
16.	Efficiency – Are the objectives achieved cost-effective?					2	4	3	9.1	No. 3/4
17.	Sustainability – Will the benefits last/Are the positive results durable?					2	4	3	9.1	No. 3/4

10: very good; 1: very bad

Note: Results of nine partners included in the assessment; one participant had been insufficiently involved in the project, another one had to leave to attend another meeting.

3.2.2 Project Management

		1-4	5	6	7	8	9	10	Avg.	Rank
1.	Strategy – Do we do the rights things? Degree of satisfaction					2	3	4	9.2	No. 1/2
2.	Cooperation – Who is it included in the cooperation and how? Degree of satisfaction				1	1	4	3	9.0	No. 3-5
3.	Steering Structure – How do we plan and make decisions? Degree of satisfaction					3	3	3	9.0	No. 3-5
4.	Processes – How do we influence the processes for change? Degree of satisfaction					2	4	2	9.0	No. 3-5
5.	Learning – What do we learn and how? Degree of satisfaction					1	5	3	9.2	No. 1/2

10: very good; 1: very bad

Note: Results of nine partners included in the assessment; one participant had been insufficiently involved in the project, another one had to leave to attend another meeting.

Annex 6: Handout of the Debriefing Workshop (30/10/2023)**Strengthening of the Quality Infrastructure for Innovations
in the Agricultural and Food Sector in Ethiopia****Evaluation Debriefing Workshop****Minutes of Meeting**

Swiss Inn Nexus Hotel, Addis Ababa

October 30, 2023, 9:00-12:30

Dr. Christine Martins, Key Evaluator
Dr. Franz Hengstberger, Technical Evaluator

Participants

1. Mr. Esayas Lemma, CEO, Crop Development Office, MoA (Opening Address)
1. Mr. Ukeme Okon Archibong, Project Coordinator, PTB (Opening Address, remote)
2. Mr. Fisseha Teshome, Director, Plant Varieties and Seed Regulatory Directorate, EAA
3. Mr. Gebreyes Gurm, Researcher, former Director, Natural Resource Management Directorate, EIAR
4. Mr. Mengistu Tefera, Director, Standard Implementation Directorate, IES
5. Mr. Hiwot Hibste, Expert, Standards Development Directorate, IES
6. Mr. Dr. Mulugeta Derebew, DG, EMI
7. Mr. Tadesse Gergiso, Director, Scientific Metrology, EMI
8. Mr. Abel Anberbir, Deputy DG, ECAE
9. Mr. Getachew Feyisa, Director, QI Directorate, OSTA
10. Mr. Mihretu Bedassa, Researcher, Soil Laboratory Head, HARC
11. Mr. Dr. Yared Merdassa, Quality Manager, Food Testing Laboratory, OARI
12. Mr. Dr. Belachew Tefera, Director, APIQTC
13. Mr. Dr. Fanuel Fikiremaria, Animal Product and Feed Quality Analyst, APIQTC
14. Mr. Dr. Tadesse Dessalegn, Wheat Value Chain Advisor, Green Innovation Centres for the Agriculture and Food Sector – Ethiopia, GIC, GIZ
15. Mr. Girma Mamo, Project Coordinator and Technical Advisor, MoTRI, NQIDP
16. Mr. Dr. Mulat Abegaz Legesse, QITC Consultants, PTB consultant for SMEs
17. Mr. Mulugeta Mekonnen, Bilbas Integrated Management Consultants Plc., PTB consultant for laboratory support
18. Mr. Gemechu Sorsa, CheMed Scientific, PTB consultant for laboratory support
19. Mr. Kassegne Kebede, Local Coordinator, PTB Consultant
20. Mr. Dr. Franz Hengstberger, Technical Evaluator, PTB Consultant
21. Ms Dr. Christine Martins, Key Evaluator, PTB Consultant

Structure

- 1. Background**
- 2. Evaluation methods**
- 3. Findings of the evaluation**
 - 3.1 Frame conditions
 - 3.2 Output 1: Quality assurance
 - 3.3 Output 2: Laboratory performance
 - 3.4 Output 3: Stakeholder awareness
 - 3.5 Project Management
 - 3.6 Specific evaluation questions

- 4. Conclusions**
- 4.1 Relevance
- 4.2 Coherence
- 4.3 Effectiveness
- 4.4 Efficiency
- 4.5 Impacts/higher-level development results
- 4.6 Sustainability
- 5. Recommendations**

1. Background

The project “Strengthening of the Quality Infrastructure for Innovations in the Agricultural and Food Sector in Ethiopia” has started in January 2020 and will end in March 2024. It is funded by the German Federal Ministry for Economic Cooperation and Development (Bundesministerium für wirtschaftliche Zusammenarbeit und Entwicklung, BMZ) under BMZ’s special initiative” ONE WORLD – No Hunger”. The project is the second phase of a project which started as part of the programme “Green Innovation Centres for the Agriculture and Food Sector” (GIC). Since end of 2020, it is part of the German Technical Cooperation Programme “Promotion of Agricultural Productivity” (PAP).

The project aims at increased use of Quality Infrastructure services in the wheat, legumes, and honey value chains in selected regions in Ethiopia. Political partner is the Ministry of Agriculture (MoA) which is a novum for PTB. The project structure is very complex with various stakeholder as implementing partners, i.e., agricultural research institutions, regional agricultural or regulating institutions, as well as the institutions responsible for quality infrastructure under the Ministry of Trade and Regional Integration (MoTRI). Target groups are the users of quality infrastructure services, which are smallholder farmers as well as agricultural or food sector small and medium enterprises (SMEs).

2. Evaluation

The evaluation is conducted by Dr Christine Martins (team leader), freelance rural development consultant based in Berlin, Germany, and Dr Franz Hengstberger, Technical Evaluator.

Objective of the evaluation is to assess the performance of the PTB project “Strengthening of the Quality Infrastructure for Innovations in the Agricultural and Food Sector in Ethiopia” covering the full range of activities since its start in January 2020 up to the time of the evaluation. The evaluation shall contribute to accountability towards the donor, partner organizations and the general public. In addition, an important aspect of the evaluation is learning from past experiences and identifying recommendations for improvement – for the remaining five months of the present project. Also, future projects of the partner organizations and PTB may benefit from the evaluation results.

The evaluation comprises the following **steps/phases**:

- Desk research phase (19/07-20/10/2023),
- Inception report (12/09/2023),
- 17 Zoom interviews (09-19/10/2023),
- Kick-off Workshop in Addis Ababa (23/10/2023),
- 20 interviews with different stakeholders in Addis Ababa and Oromia Regional State northwest and northeast of Addis (23-27/10/2023),
- Analysis among consultants (28-29/10/2023),
- Debriefing Workshop (30/10/2023),
- Analysis phase and report writing (01/11-04/12),
- Report (1st Draft 04/12/2023 PTB; 2nd Draft 09/01/2024 partners; Final 10/02/2024)

Evaluation methods were:

- Secondary data analysis,
- 17 Zoom interviews with selected key informants which could not be met during the evaluation in Ethiopia (PTB, GIZ, EMA, HARC),

- Start-up workshop with main implementing partners for introducing the evaluation and conducting a participatory evaluation (i.e., workshop participants evaluate the project according to key questions),
- 20 interviews in Ethiopia (MoA, Amhara Region Bureau of Agriculture, EAA, EIAR, MoTRI, EMI, IES, ECAE, NQIDP, OSTA, OARI, APIQTC, HARC, ELA, Bless Agri-food Laboratory Services Plc, Booez Food Complex Plc, Yamrot Food Complex, Lab consultant, SME consultants),
- Participant observation in quality infrastructure (QI) institutions and other places visited (e.g., laboratories, SMEs),
- Assessment of products produced with the support of the project, e.g., concepts, standards, workplans, training modules, information and awareness creation materials,
- Debriefing workshop to present, discuss and, where appropriate, adjust the preliminary findings, conclusions, and recommendations of the evaluation,
- Triangulation of data and methods.

The appointments with the interview partners in Ethiopia were made by the PTB Local Coordinator, Mr. Kassegne Kebede. He also introduced the evaluation team to the different stakeholders but did not attend interviews to allow open and unbiased answers.

Limitations of the evaluation: Project areas in the regional state of Oromia south of Addis Ababa and in the regional state of Amhara could not be visited due to security concerns in Oromia and the state of emergency prevailing in Amhara. Intended Zoom discussions with the Bureaus of Agriculture concerned could not take place due to network failure, but it was possible to have a half-hour telephone interview with the Amhara Bureau of Agriculture. The interview with the Director of the Natural Resource Management Directorate of EIAR could not take place as he was on mission abroad. All other interviews could be conducted, in a few cases at a different time, in other cases with representatives of the originally planned person. Despite severe time limitations, the evaluation team managed to discuss issues of concern with the State Minister of Quality Infrastructure and Assurance Services.

The evaluation team wishes to thank all interview partners for making themselves available and sharing their experiences and knowledge with the evaluation team. The evaluation was a great learning experience for both evaluators.

3. Findings of the evaluation

3.1 Frame conditions

Supportive factors	Challenges	Recommendations
<ul style="list-style-type: none"> • Long-standing cooperation of PTB with QI institutions in Ethiopia. • ‘Unique’ PTB project in the field of quality assurance in the agricultural sector. • Technical regulators of all Ministries (e.g., MoA, MoH, MoI, MoTRI) are legally required to use national quality infrastructure services. • Project nudging NQI institutions to consider agricultural and food QI requirements. • Synergies possible with GIZ Green Innovation Centre (GIC) project (even though insufficiently used). • Increased external support of NQI sector and export quality in Ethiopia (various donors). • Increased possibilities for NQI institutions to reach their calibration customers (e.g., through collection points installed at integrated agro-industrial parks). 	<ul style="list-style-type: none"> • COVID 19 • Conflicts in Ethiopia, security situation • Reduced partner budgets • Inflation (esp. food prices) • Restrictions in imports and business operations due to Forex shortage • Frequent restructuring of relevant Ministries and institutions 	<ul style="list-style-type: none"> • Gap-filling of PTB should not become long-term habit for partners; sustainable solutions are required. • Facilitate consultations and regular exchange among project partners for overcoming silo mentality (e.g., project retreat). • Donor project interactions: regular

Supportive factors	Challenges	Recommendations
<ul style="list-style-type: none"> • Increased high-level political awareness and support for NQI sector in Ethiopia (e.g., gvt. budget made available for modern laboratory buildings for NQI institutions). • NQI system in Ethiopia supported by World Bank loan (NQIDP). • Need for gvt. to earn Forex through exporting agri-food raw material and products requires use of QI services. • Increased demand for QI services: Import countries demand QI certificates; if not provided by export country, goods will be tested in import country at increased costs and danger of losing shipment. • Project provides the opportunity to “crack down the silos”. • In future, increased dependance of price for agri-food products on their quality (incl. food safety). • MoA as bridge for NQI institutions to reach target groups (e.g., farmers, processors). • Political willingness and support to tackle QI issues in MoA. • Wheat (and faba beans) are relevant commodities in the project areas and for Ethiopia, honey as export commodity for Forex. • Success of irrigated wheat programme further increasing the demand for QI services. • PTB was able to fill gaps of partners (e.g., honey export to EU, humidity standards and training for EMI, PTs for agricultural laboratories). • PTB was able to fill temporary gaps of partners (e.g., imported CRMs before EMI can produce CRMs locally). 	<ul style="list-style-type: none"> • Extremely complex partner and stakeholder landscape, constantly changing • After restructuring, regulating Ministries are insufficiently interlinked (e.g., MoA, MoTRI, MoH, Mol). • Indications of “Silo mentality” (partner institutions focusing more on own benefits and less on project objectives) • Climate change affects producers in certain areas of the country. • Low public awareness on quality-related issues; consumer protection association almost non-functioning. • Donor coordination is an issue. 	<p>formal and informal exchange of information between staff.</p> <ul style="list-style-type: none"> • Support the transfer of information for new PTB project staff and iSTC (e.g., proper knowledge management). • Support public awareness creation on quality-related issues.

3.2 Output 1: Quality assurance

<p>Output 1: The conditions for quality assurance measures to be taken by SMEs from the agricultural production and processing sector are improved.</p>	<p>Indicator 1.1: 5 standards or technical regulations on quality criteria have been elaborated or updated. Values: Baseline: 0, Target value: 5, 10/2023: 16. The indicator has been achieved.</p>
	<p>Indicator 1.2: The National Metrology Institute is able to calibrate the customers’ measuring instruments for air and grain moisture according to international specifications. Values: Baseline: 0, Target value: 1, 10/2023: 1. Humidity calibration equipment was supplied by PTB, incl. training. EMI already calibrates customers’ measuring instruments accordingly. Grain moisture calibration equipment was supplied by NQIDP, trainings have been provided by PTB. EMI is able to calibrate customers’ measuring instruments according to international specifications. The indicator has been achieved.</p>

Achievements, positive	To be improved	Recommendations
3.2.1 Standards (Elaboration, revision and application of standards)		
<ul style="list-style-type: none"> Existing standards (five compulsory and eleven voluntary standards) were reviewed and improved where required, based on the needs of the agricultural and food sector as well as on IES requirements that standards have to be reviewed every 5 years. IES has training handbooks and pictorials at hand for its future trainings. If funds were provided it could produce further copies of handbooks and pictorials with little additional effort (logo). This could, in future, result in income through training fees at its newly built standards training academy (national budget). 	<ul style="list-style-type: none"> The 16 revised standards are not yet included in the 2023 IES standards catalogues. 	<ul style="list-style-type: none"> Reprint handbooks for IES stock Translate pictorials in Oromifa and Amharic Reprint English and translated pictorials, decide about size Use existing MoA structure (DA meeting every three months) for explaining of content and distribution of pictorials (IES) BoAs should collect feedback from DAs on trainings delivered to farmers and submit results to PTB
3.2.2 Technical regulations (Use of standards and QI services in the elaboration of technical regulations based on international good practices for regulators) (Technical regulations are done by regulators (e.g., EAA, legal metrology in MoTRI), based on standard developed with and published by IES.) No activities.		
•	•	•
3.2.3 SMEs (Introduction of quality management systems in processing companies)		
<ul style="list-style-type: none"> Excellent process of supporting 7 SMEs in achieving certification (ISO 22000, FSMS, incl. GMP, GHP, HACCP), learning by doing Evaluations of training courses SMEs supported can serve as examples/pilots for further promotion of certification. Substantial investment of SMEs in modernization and upgrade of factory site and labs (up to 1.6 million USD). SMEs were able to introduce the documentation and filing system required for the certification. EMA for SME support (even though not sufficiently utilized). Future export of wheat products will even lead to larger benefits of certification. Huge change from traditional processing practices to modern ones. Bidding for large contracts possible (Ethiopian Airlines). The SMEs selected perceived PTB support as a mirror, saw their own shortcomings. SMEs have changed considerably (e.g., are now EFDA-compliant, improved market 	<ul style="list-style-type: none"> SME certification abroad (DQS), as in Ethiopia was not possible Lack of raw material (wheat), high price of wheat. No concept developed how to speed up the process of introducing QMS and FSMS in Ethiopia on a wider scale. Insufficient interaction of NQI institutions to agri-food SMEs. 	<ul style="list-style-type: none"> Within the next few weeks, conduct workshop together with EMA for 7 SMEs to analyze lessons learnt (e.g., steps, dos and don'ts), exposure visit to best SME, to put EMA in the position to provide further FSMS support; develop a concept and steps for wider scaling up through EMA, exchange visits to certified processors, ToT? There should be a platform that creates a communication environment among agri-food SMEs and NQI institutions so that NQI institutions can provide continuous support to SMEs and SMEs are more aware

Achievements, positive	To be improved	Recommendations
<p>relations, employees more responsible and more aware of hygiene and sanitation, aware of food safety, less crises, improved image in market, performance evaluation of suppliers)</p> <ul style="list-style-type: none"> • Yamrot developed new brand for certified products (“Gold”); production will start as soon as they get the certificate to ISO 22000 from DQS in Germany (in 2 weeks) and wheat. • Staff of both SMEs visited offered support for other producers in installing FSMS. • ECAE currently achieved accreditation to ISO 22000 certification. 		<p>about the QI services available, consider using world days, EMA, chamber of commerce, social media for this</p> <ul style="list-style-type: none"> • Support EMA in filling their role, should learn from horticulture association
<p>3.2.4 Measuring instruments (Calibration and proper use of measuring instruments in the field of humidity, grain moisture, weighing scales, thermometry, and pH)</p>		
<ul style="list-style-type: none"> • Before the start of the project, EMI was already able to give training on proper use of measuring instruments in the field of grain moisture, weighing scales, and thermometry. • PTB trainings for EMI on the calibration of humidity and moisture tester instruments. • EMI is now able to calibrate measuring instruments in the field of humidity, grain moisture, weighing scales, and thermometry, and deliver training on humidity. • Calibration and training on proper use of measuring instruments in the field of pH by EMI will become possible before the end of NQIDP. 	<ul style="list-style-type: none"> • Maintenance of newly acquired analysis instruments (GC, LC, etc.) after the present contracts with manufacturers expire 	<ul style="list-style-type: none"> • The two EMI directorates for maintenance and repair of laboratory instruments at universities and hospitals could expand to agricultural testing laboratories when maintenance contracts with manufacturers are expired. • EMI can technically support institutes to organize their own maintenance, repair and calibration workshops.
<p>3.2.5 Procurement of equipment and consumables</p>		
<ul style="list-style-type: none"> • PTB supported EMI for fulfilling its calibration services for the agro-food enterprises by procurement of humidity standard and pipette calibration facility, while NQIDP procured the equipment for grain moisture measurement, and still will deliver/install and train pH measuring instruments. 	<ul style="list-style-type: none"> • none 	<ul style="list-style-type: none"> • none

3.3 Output 2: Laboratory performance

<p>Output 2: The range of quality assurance services for agricultural and food laboratories has improved.</p>	<p>Indicator 2.1: Local conformity assessment bodies offer 5 new services based on international requirements for assessing the quality of agricultural inputs, manufacturing processes or products. Values: Baseline: 0, Target value: 5, 10/2023: 0. Even though at present, the indicator has not been achieved, there is a high probability that it will be achieved by the end of the project.</p>
	<p>Indicator 2.2: A national provider of interlaboratory comparisons operates in accordance with the ISO/IEC 17043 standard. Values: Baseline: 0, Target value: 1, 10/2023: ? The evaluation team is not able to assess if HARC operates according to the ISO/IEC 17043 standard. HARC as national soil PT provider is still in its pilot stage and should be supported in learning.</p>

Achievements, positive	To be improved	Recommendations
<p>3.3.1 Analysis of agricultural products, inputs, soils and plants</p>		
<ul style="list-style-type: none"> • Capabilities for the analysis of agricultural products, inputs, soils and plants have been improved. • In a few years, EMI will be in the position to develop CRMs in accordance with priorities from agro-food stakeholders (equipment delivered, staff partially trained, laboratory building almost ready for occupancy). 	<ul style="list-style-type: none"> • None of the public agricultural laboratories visited (OARI, APIQTC, HARC) has maintained its accreditation for its testing parameters. Since 2019, the annual fees for renewing the accreditations were no longer paid. Now, laboratories only assess their continued compliance with ISO 17025 through (PTB funded) PT results for a limited period. • Agro-food laboratories of research organizations increasingly focus on research and writing publications instead of providing testing services for relevant quantities/parameters (water, soil, fertilizer, plants, pesticide residues, aflatoxins, heavy metals, etc.). • Publication based on such measurements may not be reliable. • Conflict of interest as only publication is basis for career development and incentives, not QI services 	<ul style="list-style-type: none"> • MoA should promote accreditations of its public laboratories through EAS or, in cases, where EAS is not yet internationally recognized, use foreign accreditors. • MoA should also ensure that published results in papers are based on correct measurements which is only possible through accreditation.
<p>3.3.2 PTs (Performing interlaboratory comparisons)</p>		
<ul style="list-style-type: none"> • Agricultural and food laboratories are increasingly using interlaboratory comparisons (PTs) supported/paid by PTB to improve the quality of their analyses (see Outcome Indicator 2 below). • Nine agricultural and food laboratories got experiences in PT participation. • In nine agricultural and food laboratories, samples kept from 	<ul style="list-style-type: none"> • HARC, selected as national soil PT provider by ELA, has been running the first PT round in 2019, the second in June 2022, and the third one is planned for end of 2023. The second PT still has not yet been finalized. • Without the relevant PTs, laboratories cannot get accredited for the parameters for which they give services. 	<ul style="list-style-type: none"> • HARC should get a trainer from an experienced PT provider for gap analysis and training before the end of the year. • Discuss with MoA, EIAR, HARC, EAA, EMI, ECAE, and ELA, who would volunteer

Achievements, positive	To be improved	Recommendations
<p>previous PTs are available for being used as indicators of continued competence.</p> <ul style="list-style-type: none"> Participation of one HARC staff in a global PT conference (UK, Sep 2023), workshop planned for exchange of experience. 	<ul style="list-style-type: none"> EAC PT provider is not certified, needs improvement or find alternative PT provider 	<p>of acting as national PT provider for other soil, water, fertilizer, wheat, honey, ... testing laboratories in Ethiopia – or is EAA's planned national reference laboratory also able to accommodate the task.</p> <ul style="list-style-type: none"> HARC should talk to EAS whether their PT is acceptable for accreditation purposes and inform participants accordingly. Road map for participating PT labs acc. to PT results (corrective actions).
<p>3.3.3 Quality assurance and cost-effectiveness of the services offered</p>		
<ul style="list-style-type: none"> PTB-funded PT participation for selected Ethiopian agro-food laboratories. Training (in-house and abroad) provided to selected staff of Ethiopian laboratories and NQI institutions. 	<ul style="list-style-type: none"> Except for ECAE, most other public laboratories are not in a position to charge for their services; some can charge but have to return collected fees to their Ministry. 	<ul style="list-style-type: none"> Quality assurance should be regarded as part of service provision and has to be paid for.
<p>3.3.4 Procurement of equipment and consumables</p>		
<ul style="list-style-type: none"> Filling gaps which cannot be filled by others (e.g., honey export to EU, support of Dessie seed lab which was demolished in the conflict). Procurement of missing equipment and consumables by PTB to laboratories, based on strategic selection of laboratories (OARI, APIQTC), gap assessment / needs analysis, consultancy. 	<ul style="list-style-type: none"> Laboratory equipment for OARI (grain) and APIQTC (honey) arrived late; in addition, customs clearance took time. 	<ul style="list-style-type: none">

3.4 Output 3: Stakeholder awareness

<p>Output 3: Stakeholders from the agricultural and food sectors are better informed about quality requirements and QI services.</p>	<p>Indicator 3.1: 5 additional target group-oriented information products of the QI institutions are available. Values: Baseline: 0, Target value: 5, 10/2023: 4. The indicator has been partly achieved.</p>
	<p>Indicator 3.2: 10 sensitization or training events (training of trainers) on QI in the agricultural and food sectors were carried out. Values: Baseline: 0, Target value: 10; 10/2023: 10. The indicator has been achieved.</p>

Achievements, positive	To be improved	Recommendations
3.4.1 Sensitization events (Conceptualization and implementation of sensitization events for political decision-makers, SMEs and providers of QI services)		
<ul style="list-style-type: none"> • Three sensitization events conducted: <ul style="list-style-type: none"> - World Metrology Day (20.5.2023), - Ethiopia Tamrit Expo (6.-10.5.2023), - World Standards Day (3 days awareness raising campaign for different target groups; 17.-19.10.2023). • Five trainings / awareness raising on QI conducted: <ul style="list-style-type: none"> - 2 trainings / awareness raising on QI and food safety delivered for wheat processing SMEs in Oromia (13.07.2021) and Amhara region (05.10.2021; for SME selection) - 1 awareness creation workshop on QI, Standardization, Measurement, and accreditation with OSTA, IES and EMI in Oromia region (24.02.2022), - 2 trainings on QI, Standardization, measurement & GAP with OSTA, IES and EMI (23.-24.05.2023 and 15.-16.08.2023). • Awareness of quality by actors in agriculture has increased (even though to a limited degree). • Knowledge on QI aspects (e.g., measurements, standards) has increased in different target groups (even though to a limited degree). 	<ul style="list-style-type: none"> • There was no concept developed for awareness creation. • Insufficient focus on awareness creation for farmers and other target groups (limitations due to Covid 19 and the conflict situation). 	<ul style="list-style-type: none"> • More focus on awareness creation for different target groups (media campaigns, consumer protection). • Make better use of world days for awareness raising on QI issues in agriculture and food (e.g., World Pulses Day Feb 10th, World Consumer Rights Day March 15th, World Bee/honey Day May 20th, World Food Safety Day June 7th, World Accreditation Day June 9th, International Day of Agriculture Oct 12th, World Food Day Oct 16th, World Quality Day Nov 9th).
3.4.2 ToTs (Conceptualization and implementation of training of trainer measures and other training formats on the storage and transportation of agricultural raw materials using measuring instruments appropriately)		
<ul style="list-style-type: none"> • 2 ToTs conducted jointly by IES, EMI, PTB: Training for DAs & SMS of Oromia Region Arsi Zone Bureau of Agriculture (24.-28.10.2022) and Amhara Region Bureau of Agriculture (29.03.-02.04.2023). • Gvt. structure available for reaching target groups: DAs living in the woredas have the task to train farmers (group or individual); meeting once every three months at zonal level. 	<ul style="list-style-type: none"> • No concept developed for ToT; no support of transfer of knowledge afterwards (e.g., pictorials), no monitoring of trainings (formal or informal) done by the DAs after they were trained by the project. • Only two ToTs were implemented – this was originally planned as essential aspect of the project. • No evaluation done after ToTs for improving the training programme. 	<ul style="list-style-type: none"> • Make use of the gvt. structure of DAs and SMS: introduce QI aspects in the three-monthly meetings to explain how QI can be used to increase farm incomes, distribute pictorials for training and display at prominent parts of the woreda. • In addition, conduct more ToTs before the end of the project. • QI should be included in the national extension package for further spreading

Achievements, positive	To be improved	Recommendations
3.4.3 Information products (Elaboration of information products such as videos, brochures, service catalogues and training materials)		
<ul style="list-style-type: none"> • Two excellent pictorials on standards (wheat, faba bean) available from last phase. • Four information products developed: <ul style="list-style-type: none"> - OSTA leaflet, - IES training handbooks on interpretation of the Ethiopian standards for wheat grain and bean grains (started last Phase, finalized in 2021), - EMI training module on measurements in agriculture. 	<ul style="list-style-type: none"> • Pictorials on standards (wheat, faba bean) insufficiently used. • Insufficient information products developed for different target groups (producers, traders, processors, consumers, and exporters). 	<ul style="list-style-type: none"> • Develop a strategy for making use of awareness materials. • Translation of wheat and faba bean pictorials and handbooks in Amharic and Oromifa. • Use up existing pictorial of IES in OSTA UNIDO training (10,000 farmers in 2023). • Reprint of pictorials, put them on website, use social media • Produce information products on aflatoxins and pesticide residues.

3.5 Project Management

Achievements, positive	To be improved	Recommendations
3.5.1 Project set-up		
<ul style="list-style-type: none"> • Extremely lean project management (Project Coordinator and Project Assistant in Germany, Local Coordinator in Ethiopia). • Remote contact of PTB and Technical Experts to partners during COVID 19. • Support of local experts by international experts. • Technical Committee Meetings (TCM) provide the opportunity to inform on activities implemented and planned as well as to discuss project issues. 	<ul style="list-style-type: none"> • The planned steering committee meetings (see Implementation Agreement of Aug. 2020) were not realized. • Frequent change of PTB staff (PC, PA) and iSTE, insufficient documentation for smooth handing-over. • Insufficient analysis and documentation of the extremely complex partner and stakeholder landscape, constantly changing. • Apparently, there is no MoU of PTB with GIZ programme, Local Coordinator “begging” for GIZ support. • Insufficient direct personal contact of PC with partners . 	<ul style="list-style-type: none"> • PTB should conduct a stakeholder analysis with documentation, constantly updated. • Training of PTB staff and Local Coordinator in stakeholder analysis and other Capacity WORKS tools. • Improved documentation of activities planned and implemented to smoothen handing-over process . • Provide support for Local Coordinator in administrative issues (on demand). • More frequent visits of PC to Ethiopia.
3.5.2 Planning		
<ul style="list-style-type: none"> • Good project appraisal involving many stakeholders 	<ul style="list-style-type: none"> • Annual planning: PTB informs partners on “way forward” during TCMs, there is no plan alignment among 	<ul style="list-style-type: none"> • Sharing operational plan with partners (transparency, ownership).

Achievements, positive	To be improved	Recommendations
	<p>project implementers (no integration, all institutions have individual plans).</p> <ul style="list-style-type: none"> • Activity planning often based on partner proposal (“ToR”, “Concept”, “budget request”), instead of a jointly developed concept. 	
3.5.3 Implementation		
<ul style="list-style-type: none"> • Despite the serious limitations to implement the project (Covid 19, conflicts in Ethiopia, change of key staff – PTB, iSTC), the project managed to conduct a huge number of activities. 	<ul style="list-style-type: none"> • Insufficient training documentation by PTB and partners. • Insufficient evaluation of project activities, the chance is missed to constantly improve. • The project could further provide room for discussion to move forward towards the objective of the project, promote creativity and taking over responsibility. 	<ul style="list-style-type: none"> • After each project event (training, awareness raising, material support, training abroad) a short report of the event should be produced containing all relevant information and summarizing the result (schedule, trainers, participants, information materials, results, feedback). • At the end of each training, easy to analyze evaluation forms should be filled by the participants which should be analyzed and summarized after each training and used for improving the next training.
3.5.4 Monitoring		
<ul style="list-style-type: none"> • PTB monitoring sheet available for Project Coordinator and Local Consultant. • Milestones are defined for monitoring project progress (but insufficiently monitored). 	<ul style="list-style-type: none"> • Insufficient project monitoring (indicator monitoring, monitoring of milestones, activity monitoring, monitoring of partner contributions, monitoring of risks or assumptions). • At present, monitoring data do not provide an overview about the present status of the project. 	<ul style="list-style-type: none"> • Improve project monitoring (indicator monitoring, monitoring of milestones, activity monitoring, monitoring of partner contributions, monitoring of risks or assumptions). • Establish lists of trainings conducted (with gender-segregated data), list of equipment provided, experts deployed, etc. to be updated regularly.
3.5.5 Evaluation, reflection, learning, exchange, knowledge management		
<ul style="list-style-type: none"> • Technical Committee Meetings (TCM) provide room for exchange of partners of agricultural, regional and NQI institutions which normally have less contact. 	<ul style="list-style-type: none"> • No regular evaluation of activities (also mentioned during the participatory evaluation at the Kick-off Workshop). • Insufficient reflection, learning from experiences, exchange, knowledge management. 	<ul style="list-style-type: none"> • Intensify informal exchange. • Documentation of best practices and learnings for internal and external audience • Project management should be more systematic in transfer of knowledge, should develop a concept for knowledge management.

Achievements, positive	To be improved	Recommendations
	<ul style="list-style-type: none"> Since Jan. 2020, only 3 TCMs conducted (plan: twice per year). 	
3.5.6 Creating synergies to other projects		
<ul style="list-style-type: none"> GIC supporting SMEs in contract farming, PTB in FSQM. Synergies created with NQIDP. 	<ul style="list-style-type: none"> Interlinkages of GIC and PTB at GIC farmer training level insufficiently utilized (integrating QI aspects). Besides NQIDP and, in some respects, GIC, insufficient synergies were created. 	<ul style="list-style-type: none"> The project team should actively explore on creating possible synergies with projects of other donors and work accordingly.
3.5.7 Finance management		
<ul style="list-style-type: none"> Certain flexibility in fund allocation (unlike EU or World Bank), adjustments possible within the boundaries set by the project. 	<ul style="list-style-type: none"> Finance monitoring does not allow tracking of funds for specific activities. Data available from finance monitoring does not allow fast adjustment of project implementation. 	<ul style="list-style-type: none"> Adjust PTB finance monitoring to support projects in steering and implementation.
3.5.8 Evaluation		
<ul style="list-style-type: none"> Availability of Local Coordinator and Project Coordinator for in-depth discussions since the beginning (four online meetings) prior to departure saved a lot of time which otherwise would have been needed in discussions in Ethiopia. Numerous documents provided. 17 Zoom discussions before the departure to Ethiopia reduced pressure in Eth. 	<ul style="list-style-type: none"> Finance data provided to the evaluation team on Oct 10 were from May 2023 (not up to date) Mismatch of information provided (no. of contract days, no. of contract days paid) Some the documents received were outdated (e.g., old version of OSTICA brochure, empty training participants list, expert reports with PTB comments in tracking mode) 	<ul style="list-style-type: none"> Evaluators should get updates of data from PA before their departure (finance, trainings, expert deployment, equipment). Evaluators should get new expert reports as soon as these arrive at PTB.

3.6 Specific evaluation questions

Specific evaluation question 1: A national soil proficiency testing programme was set up at the Holeta Agricultural Research Centre with support of a previous PTB project. How sustainable is the programme? What are the lessons learned so far and are there potentials to out-scale the measure to other sectors (i.e., other materials to be analyzed instead of soil)?

HARC, selected as national soil PT provider by ELA, has run one PT in 2019, the second one in June 2022, and the third one is planned for end of 2023. The second round has not yet been finalized – the PT results available in December 2022 were not sent to the participating laboratories yet.

A national soil PT provider needs to be accredited as a soil-testing laboratory which is not yet the case for HARC and as a PT provider which is also not yet the case for HARC (two accreditations needed). For the latter, some time is allowed by most accreditors for accumulating experiences (pilot phase) before the actual accreditation.

HARC is still in the phase to set up the system of acting as national soil PT provider. The limited time of the evaluation did not allow an in-depth analysis of HARC's capability for conducting national soil PTs and discussing lessons learned. As the system is not yet fully operating, it is too early to assess its sustainability. However, with EMI being in the position to produce CRMs in the next few years, the chance for sustainability increases.

The Ministries and all institutions concerned (e.g., EMI, EAA, EIAR, HARC, ELA) should jointly decide in a transparent process which laboratory/laboratories could in future serve best as national PT provider for different materials in such a way that interested public and private laboratories can easily afford to participate. This is important to support the agricultural research laboratories to regain and maintain their accreditation for international acceptance of their test results.

Specific evaluation question 2: What potentials existed in this project to promote gender mainstreaming? What concrete measures could be put in place to promote gender mainstreaming in future QI projects in Ethiopia?

The answers provided by the eleven workshop participants in the gender evaluation questionnaire during the Kick-off Workshop of the evaluation on Oct. 23rd showed that few of the existing potentials in the project to promote gender mainstreaming were used. Examples given were encouragement of women to participate in trainings, and indirect impact on women through the project's focus on food quality (nutrition).

The key evaluator was surprised to realize that the project's training participants lists did not cover if participants were male or female. As she had expected that only few women worked in QI, she also was surprised to read in the World Bank's NQIDP project appraisal document from March 2017, that 34% of staff of the four NQI institutions was female. Her analysis revealed that (a) institutions with less staff were more balanced in gender-disaggregated employment (e.g., ENAO/EAS, an administrative institution without laboratories, had 42% female staff) and (b) that the composition of staff of lower education level (Diploma and below) was more balanced (47% female) than that with a master's degree (7% female).

The answers of project partners in the gender evaluation questionnaire from the Kick-off Workshop of the evaluation revealed a broad array of concrete measures which could be put in place to promote gender mainstreaming in future QI projects, such as:

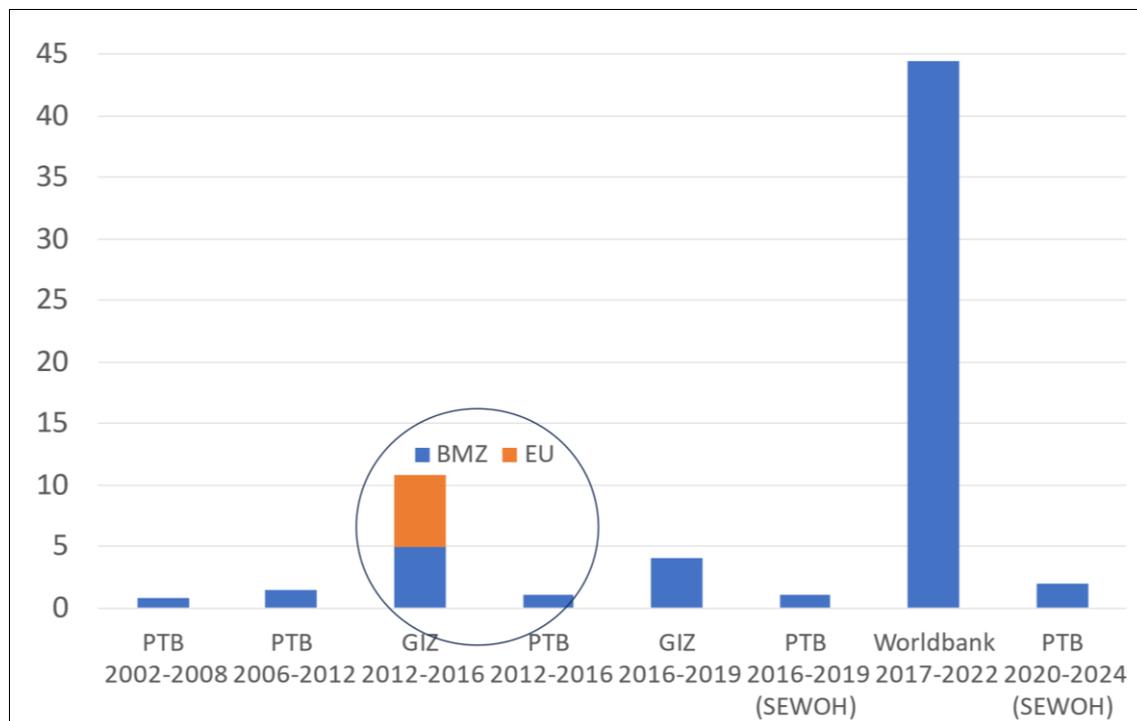
- Capacity building of businesswomen, supporting women processors, support female entrepreneur SME, business to business meetings (discussions),
- Provision of leadership and skills upgrading, education and trainings for women,
- Gender-responsive standards and participation in standardization and quality assurance,
- Networking and collaboration (experience sharing) with relevant bodies, establish a platform where one can get experience from others, gender experience sharing,
- Support daycare facilities of institutions.

The final report also will include recommendations which also cover other aspects if possible.

Specific evaluation question 3: What opportunities exist to improve political attentiveness for future PTB-MoA projects?

MoA has been very supportive to the PTB project (chairing the Technical Committee Meetings, attending project workshops, providing information to PTB on new projects of the government and donors). The evaluation team identified the following opportunities to further improve political attentiveness for future PTB-MoA projects:

- Focus on unique selling point of PTB and its comparative advantages (see Figure 1 below).
- Emphasize the importance of the present project for the future of the country (income, food security, exports/Forex), e.g., through a joint PTB-MoA publication.
 - More frequent visits of Project Coordinator to Ethiopia.



Note (after WS): Does not contain GIZ-supported Engineering Capacity Building Program (ECBP), Phase I 2004-2008, 59 million EUR from BMZ, with four components, Component No. 3: Improvement of Quality Infrastructure; Phase II 2008-2011; Phase III 2011-2014.

Figure 1: QI projects in Ethiopia, PTB, GIZ, World Bank (in million EUR)

4. Conclusions

Please note that the analysis phase of the present evaluation has been planned to be from for Nov. 1st to Dec. 4th, 2023. Therefore, the assessment provided in the tables below still might change.

4.1 Relevance – Is the project doing the right things?

The project is highly relevant as it addresses the vital aspects of the Ethiopian economy. It is in line with Ethiopian policies and international practices and considers priorities of the partners and the BMZ. The project did not specifically consider the female part of its target groups and is not based on a holistic approach to sustainable development. The project design has responded appropriately to changed conditions (Covid 19, conflicts in the country).

Criterion	Evaluation dimension	Weighting	Assessment
Relevance	The intervention's design is geared to country-specific, regional and global policies and priorities of the partners and the BMZ.	25 %	1
	The intervention's design is geared towards the needs and capacities of the target groups	25 %	2
	The intervention's design is realistically and plausibly geared towards achieving the intervention's objective	25 %	2
	The intervention's design has responded to changes in the environment and adapted to the needs.	25 %	1
TOTAL			1.5

Assessment:

- 1: very good result, far above expectations,
- 2: good result, entirely meets expectations,
- 3: satisfactory; results are below expectations, but mainly positive,
- 4: unsatisfactory result; below expectations; negative results prevail despite several positive results,
- 5: negative results clearly prevail despite several positive partial results,
- 6: the project has failed completely; situation has rather deteriorated.

4.2 Coherence – How well does the project fit (with other interventions in the country and the sector)?

Within German development cooperation, the intervention was designed in a complementary way, however, the potential for creating synergies was insufficiently used. Besides supporting human rights (e.g., by advocating consumer protection organisations), all other norms and standards which are supported by German development cooperation are considered. The project design and implementation complement the partners' own efforts and are coordinated with other donors' activities (e.g., NQIDP); however, there are no common systems used for M&E, learning and accountability (together with partners, other donors, or international organisations).

Criterion	Evaluation dimension	Weighting	Assessment
Coherence	Internal coherence: Within German development cooperation, the intervention was designed and implemented in a complementary manner, based on the division of tasks.	50 %	2
	External coherence: The intervention's design and implementation complement the partner's own efforts and are coordinated with other donors' activities.	50 %	2,25
TOTAL			2.125

4.3 Effectiveness – Is the project achieving its objectives?

According to the indicators defined the project has achieved/will be achieving its objectives (see below).

Project objective: The use of quality infrastructure (QI) services which contribute to the application of quality-related innovations in the selected project regions and value chains of the agricultural and food sectors in Ethiopia has increased.	Outcome Indicator 1: 5 SMEs from the agricultural production and processing sector have adapted their quality assurance measures to the requirements of relevant standards and technical regulations. Values: Baseline: 0, Target value: 5, 10/2023: 7. The indicator has been achieved.
	Outcome Indicator 2: Agricultural and food laboratories are increasingly using interlaboratory comparisons to improve the quality of their analyses. Values: Baseline: In the period of 2016-2018 Ethiopian laboratories participated in a total of 113 interlaboratory comparisons; Target value: In the period of 2020-2023 Ethiopian laboratories participated in a total of 135 interlaboratory comparisons; 2020-10/2023: 175. The indicator has been achieved.
	Outcome Indicator 3: 70 % of the trained trainers confirm that they pass on their new knowledge of QI to SMEs and smallholder farmers. Values: Baseline: 0; Target value: 70 %; 10/2023: Data collection will follow through an external evaluator. The indicator has not yet been measured but is likely to be achieved.

As shown in the table below, the outcome indicators defined do not appropriately measure if the project objective is fulfilled.

Outcome indicator	Degree of fulfilment (in %)	Appraisal (A-C)*	Justification
1. 5 SMEs from the agricultural production and processing sector have adapted their quality assurance measures to the requirements of relevant standards and technical regulations.	>100%	C	The indicator does not measure if the project objective is fulfilled. An increased use of QI services cannot be measured by five SMEs having adopted better quality assurance measures.
2. Agricultural and food laboratories are increasingly using interlaboratory comparisons to improve the quality of their analyses.	>100%	C	The indicator covers improved quality of laboratory analyses but does not measure an increased use by the target group.
3. 70 % of the trained trainers confirm that they pass on their new knowledge of QI to SMEs and smallholder farmers.	Not yet evaluated	C	The indicator does not measure if the project objective is fulfilled. That trainers pass on their new knowledge of QI to SMEs and smallholder farmers does not measure an increased use of QI services.

*: Appraisal: A = adequate indicator; B = slight objections; C = poor indicator, to be revised if applicable.

Indicators which measure the project objective (increased use of QI services) can be taken from the National Quality Infrastructure Development Project (NQIDP, World Bank/IDA loan). Data published at the World Bank website show that the use of national government QI services has considerably increased. The PTB project has – among others – contributed to this development. However, the share of users from the agricultural and food sector is not known. Also, data about the use of regional state government QI services and private sector QI services are not available.

Indicators related to the number of enterprises utilizing NQI institutions' quality assurance services	Baseline 30/06/2017	Target 07/08/2023	Actual 07/04/2023
Number of customers that used EMI's calibration services	31	340	499
Number of customers used ECAE's conformity assessment services (testing, inspection, and certification)	20*	312	412
Number of customers implemented standards with the support of IES	15	61	52
TOTAL	66	713	963

* Data questioned by ECAE.

Indicators related to the volume of Quality Assurance services delivered to all customers by NQI institutions during the budget year (01/07-30/06)	Baseline 30/06/2017	Target 07/08/2023	Actual 07/04/2023
Number of calibration certificates provided by EMI	1728	8545	7671
Number of accreditation certificates provided by EAS	0	64	22 ¹
Number of conformity assessment service reports provided by ECAE	0*	64	1470
TOTAL	1728	8673	9163

* Data questioned by ECAE.

Source: projects.worldbank.org/en/projects-operations/project-detail/P160279 (accessed 17/10/2023).

¹ This number corresponds with the information obtained by the evaluation team that many accredited laboratories did not renew their accreditation by paying the annual accreditation fee.

As already described in the Inception Report of the present evaluation, the project objective is beyond the influence of the project (attribution gap). Therefore, for assessing effectiveness of the project, the evaluation applied a revised project objective: Instead of increased use of QI services it measures improved quality and availability of QI services.

Criterion	Evaluation dimension	Weighting	Assessment
Effectiveness	The intervention has achieved its objective (at outcome level) according to the indicators agreed upon.	25 %	1
	The intervention's activities, inputs and outputs have considerably contributed to achieving the project's objective (at outcome level).	25 %	2
	The quality of the intervention's implementation has considerably contributed to achieving the intervention's objective (at outcome level).	25 %	2
	The intervention has leveraged potentials of unintended positive results and reacted to risks and/or the occurrence of (unintended) negative results.	25 %	2
TOTAL			1,75

4.4 Efficiency – Are the objectives achieved cost-effective?

Due to the late start of the project and delays in project implementation due to the Covid 19 pandemic and the different conflicts in Ethiopia, less activities could be conducted than originally planned. Project budget was planned to be spent by 64.5% for PTB staff and consultants, 11.0% for material assets, 24.0% for human capacity development, and 0.5% for other costs, which is reasonable for this kind of project.

By May 2023, after 80% of the project period, 42.9% of the planned budget was spent. 55.9% of the planned budget for PTB staff and consultants had been spent, 33.3% of the planned budget for material assets, 12.2% of the planned budget for human capacity development, and 38.5% of the planned budget for other costs. This indicates less capacity development than originally planned which can be explained by the Covid 19 pandemic and the different conflicts in the country. According to the Project Coordinator, from June to October 2023, there were major expenditures for material assets.

The budget was planned to be almost equally spent by the three outputs (Output 1 35.3%, Output 2 33.6%, Output 3 31.1%); however, by May 2023, expenses for Output 1 were 41,6% of total expenses, Output 2 38.5%, and Output 3 19.9%, indicating less awareness creation than originally planned.

Funds spent so far varied considerably between years: Of all funds spent until May 2023, 14.2% were spent in 2020, 35.2% in 2021, 33.5% in 2022, and 17.1% in the first five months of 2023.

The use of resources by the project regarding the outputs as well as the objectives achieved is assessed as reasonable. However, the late start of the project (implementation agreement signed in August 2020), Covid 19 and the different conflicts in Ethiopia delayed project implementation and output achievement. The restructuring of the Ministries and institutions as well as their advisory bodies led to additional inefficiencies in their functioning. The project insufficiently used chances for improvement through constant reflection and evaluation of experiences made.

Criterion	Evaluation dimension	Weighting	Assessment
Efficiency	The use of resources by the intervention is deemed reasonable with regard to the outputs achieved (production efficiency).	50 %	1.666
	The use of resources by the intervention is deemed reasonable with regard to the achievement of the objective/outcome (allocation efficiency).	50 %	1.5
TOTAL			1.58

4.5 Impacts/higher-level development results – What difference does the project make/In which way is the project contributing to overarching development goals such as poverty reduction or health?

The intended higher-level development results have taken place or are expected to take place, such as increased income and employment at SME level, increased exports and foreign exchange availability, transformation of the agro-food system, increased food security, improved food safety and improved health (aflatoxin, pesticide residues). Also, adaptation to climate change is better possible due to the improved seed laboratories. However, at farmer level, with the limited number of ToTs carried out and the insufficient follow-up, at present, less impacts are expected.

The project has contributed to beneficial organizational changes in the seven trained SMEs through the implementation of formalized quality systems and substantial new upgrades of the factories by their owners. Even though, the results achieved by the project have contributed or will contribute to the intended or implemented higher-level results, project activities are not yet used as models to achieve broad-based impact (e.g., quality systems for SMEs, ToTs for SMEs and SMS/DAs). An unintended higher-level development change could be seen in the fact that budget gaps in Ethiopian institutions are expected to be filled permanently by external sources. However, with PTB support, capacity, knowledge and awareness were created which, if implemented, will increase budgetary demands for maintenance, repair, consumables, accreditation fees, PT fees, etc.. Institutional budgets received from Ministries must be adapted in a way where the quality costs can be financed internally and / or by charging service fees.

Criterion	Evaluation dimension	Weighting	Assessment
Higher-level development results	The intended higher-level development results have taken place or are expected to take place.	25 %	2
	The results achieved by the intervention (at outcome level) have contributed to the intended or implemented higher-level results.	50 %	2
	The intervention has contributed to positive and not to negative unintended higher-level development changes.	25 %	2
TOTAL			2.0

4.6 Sustainability – Will the benefits last/Are the positive results durable?

The partners, target groups and organizations involved have the capacities required to ensure that positive results are continued. The intervention has considerably contributed to the capacity of partners to continue the positive results, provided necessary financial adaptations to finance the quality costs are implemented (see above). At present, at the level of farmers, awareness creation and capacity building through DAs is expected to be limited, thus, sustainability remains uncertain. At the level of the seven SMEs, sustainability is expected as high. However, changes in public quality institutions such as testing and calibration laboratories, PT providers, certifiers, and inspection bodies could become sustainable if the necessary organisational changes take place. A positive example for a sustainable public institution is ECAE, which is registered as an enterprise which can retain its income from its services and use it to finance its quality costs. Under the prevailing conditions, the results of the intervention are durable for SMEs and public enterprises, but not for farmers and public laboratories.

Criterion	Evaluation dimension	Weighting	Assessment
Sustainability	The partners, target groups and organizations involved have the capacities required to ensure that positive results are continued.	33.33 %	2
	The intervention has considerably contributed to the capacity of partners, target groups and other organizations involved to continue the positive results.	33.33 %	2
	The results of the intervention are durable.	33.33 %	2

TOTAL	2.0
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A comparison of the results of the participatory evaluation done by project partners during the Kick-off Workshop of the evaluation on Oct. 23, 2023, with the assessment of the evaluation team shows that both rated relevance as best (Rank No. 1), but in the other criteria, the assessments of partners and evaluation team differed to a larger degree.

	Criterion	Project partners	Evaluation team
1.	Relevance – Is the project doing the right things?	No. 1	No. 1
2.	Coherence – How well does the project fit (with other interventions in the country and the sector)?	No. 2	No. 6
3.	Effectiveness – Is the project achieving its objectives?	No. 6	No. 3
4.	Impacts/higher-level development results – What difference does the project make/In which way is the project contributing to overarching development goals?	No. 5	No. 2
5.	Efficiency – Are the objectives achieved cost-effective?	No. 3/4	No. 4/5
6.	Sustainability – Will the benefits last/Are the positive results durable?	No. 3/4	No. 4/5

Note: Nine partners participated in the assessment; two partner results are not available.

5. Recommendations

	Partners and project team	Partners	Project team	PTB
3.1 Frame conditions				
<ul style="list-style-type: none"> Gap-filling of PTB should not become long-term habit for partners; sustainable solutions are required Facilitate consultations and regular exchange among project partners for overcoming silo mentality (e.g., project retreat) Donor project interactions: regular formal and informal exchange of information between staff Support the transfer of information for new PTB project staff and iSTC (e.g., proper knowledge management) Support public awareness creation on quality-related issues 	X	X	X	X
3.2 Output 1: Quality assurance				
3.2.1 Standards (Elaboration, revision and application of standards)				
<ul style="list-style-type: none"> Reprint handbooks for IES stock Translate pictorials in Oromifa and Anharic Reprint English and translated pictorials, decide about size Use existing MoA structure (DA meeting every three months) for explaining of content and distribution of pictorials (IES) BoAs should collect feedback from DAs on trainings delivered to farmers and submit results to PTB 	X	X	X	
3.2.3 SMEs (Introduction of quality management systems in processing companies)				
<ul style="list-style-type: none"> Within the next few weeks, conduct workshop together with EMA for 7 SMEs to analyze lessons learnt (e.g., list of dos and Don't's), exposure visit to best SME, to put EMA in the position to provide further FSMS support; develop a concept and steps for wider scaling up through EMA, exchange visits to certified processors, ToT? 	X			

	Partners and project team	Partners	Project team	PTB
<ul style="list-style-type: none"> • There should be a platform that creates a communication environment among agri-food SMEs and NQI institutions so that NQI institutions can provide continuous support to SMEs and SMEs are more aware about the QI services available, consider using world days, EMA, chamber of commerce, social media for this • Support EMA in filling their role, should learn from horticulture association 	X			
3.2.4 Measuring instruments (Calibration and proper use of measuring instruments in the field of humidity, grain moisture, weighing scales, thermometry, and pH)				
<ul style="list-style-type: none"> • The two EMI directorates for maintenance and repair of laboratory instruments at universities and hospitals could expand to agricultural testing laboratories when maintenance contracts with manufacturers are expired • EMI can technically support institutes to organize their own maintenance, repair and calibration workshops. 		X		
		X		
3.3 Output 2: Laboratory performance				
3.3.1 Analysis of agricultural products, inputs, soils and plants				
<ul style="list-style-type: none"> • MoA should promote accreditations of its public laboratories through EAS or, in cases, where EAS is not yet internationally recognized, use foreign accreditors • MoA should also ensure that published results in papers are based on correct measurements which is only possible through accreditation. 		X		
		X		
3.3.2 PTs (Performing interlaboratory comparisons)				
<ul style="list-style-type: none"> • HARC should get a trainer from an experienced PT provider for gap analysis and training before the end of the year. (HARC should specify its training needs) • Discuss with MoA, EIAR, HARC, EAA, EMI, ECAE, and ELA, who would volunteer of acting as national PT provider for other soil, water, fertilizer, wheat, honey, ... testing laboratories in Ethiopia – or is EAA's planned national reference laboratory also able to accommodate the task. • HARC should talk to EAS whether their PT is acceptable for accreditation purposes and inform participants accordingly • Road map for participating PT labs acc. to PT results (corrective actions) 	X	X	X	
		X		
		X		
3.3.3 Quality assurance and cost-effectiveness of the services offered				
<ul style="list-style-type: none"> • Quality assurance should be regarded as part of service provision and has to be paid for. 		X		
3.4 Output 3: Stakeholder awareness				
3.4.1 Sensitization events				
<ul style="list-style-type: none"> • More focus on awareness creation for different target groups (media campaigns, consumer protection) • Make better use of world days for awareness raising on QI issues in agriculture and food (e.g., World Pulses Day Feb 10th, World Consumer Rights Day March 15th, World Bee/honey Day May 20th, World Food Safety Day June 7th, World Accreditation Day June 9th, International Day of Agriculture Oct 12th, World Food Day Oct 16th, World Quality Day Nov 9th) 	X		X	

	Partners and project team	Partners	Project team	PTB
3.4.2 ToTs (Conceptualisation and implementation of ToTs and other training formats on the storage and transportation of agricultural raw materials using measuring instruments appropriately)				
<ul style="list-style-type: none"> • Make use of the gvt. structure of DAs and SMS: introduce QI aspects in the three-monthly meetings to explain how QI can be used to increase farm incomes, distribute pictorials for training and display at prominent parts of the woreda • In addition, conduct more ToTs before the end of the project • QI should be included in the national extension package for further spreading 	X			
	X	X		
3.4.3 Information products				
<ul style="list-style-type: none"> • Develop a strategy for making use of awareness materials • Translation of wheat and faba bean pictorials and handbooks in Amharic and Oromifa • Use up existing pictorial of IES in OSTA UNIDO training (10,000 farmers in 2023) • Reprint of pictorials, put them on website, use social media • Produce information products on aflatoxins and pesticide residues 	X	X		
	X	X		
	X			
	X			
3.5 Project Management				
3.5.1 Project set-up				
<ul style="list-style-type: none"> • PTB should conduct a stakeholder analysis with documentation, constantly updated • Training of PTB staff and Local Coordinator in stakeholder analysis and other Capacity WORKS tools • Improved documentation of activities planned and implemented to smoothen handing-over process • Provide support for Local Coordinator in administrative issues (on demand) • More frequent visits of PC to Ethiopia 			X	X
			X	
			X	
			X	
3.5.2 Planning				
<ul style="list-style-type: none"> • Sharing operational plan with partners (transparency, ownership) 			X	
3.5.3 Implementation				
<ul style="list-style-type: none"> • After each project event (training, awareness raising, material support, training abroad) a short report of the event should be produced containing all relevant information and summarizing the result (date, location, schedule, trainers, participants, information materials, results, feedback) • At the end of each training, easy to analyse evaluation forms should be filled by the participants which should be analyzed and summarized after each training and used for improving the next training 			X	
			X	
3.5.4 Monitoring				
<ul style="list-style-type: none"> • Improve project monitoring (indicator monitoring, monitoring of milestones, activity monitoring, monitoring of partner contributions, monitoring of risks or assumptions) • Establish lists of trainings conducted (with gender-segregated data), list of equipment provided, experts deployed, etc. to be updated regularly 			X	
			X	

	Partners and project team	Partners	Project team	PTB
3.5.5 Evaluation, reflection, learning, exchange, knowledge management				
<ul style="list-style-type: none"> • Intensify informal exchange • Documentation of best practices and learnings for internal and external audience • Project management should be more systematic in transfer of knowledge, should develop a concept for knowledge management 	X X		X	
3.5.6 Creating synergies to other projects				
<ul style="list-style-type: none"> • The project team should actively explore on creating possible synergies with projects of other donors and work accordingly 			X	
3.5.7 Finance management				
<ul style="list-style-type: none"> • Adjust PTB finance monitoring to support projects in steering and implementation 				X
3.5.8 Evaluation				
<ul style="list-style-type: none"> • Evaluators should get updates of data from PA before their departure (finance, trainings, expert deployment, equipment) • Evaluators should get new expert reports as soon as these arrive at PTB 				X X

During the Debriefing Workshop in Addis Ababa on October 30, 2023, changes in the Minutes of Meeting were made where necessary.

There were no major areas of disagreement between the evaluation team and workshop participants.

Further project progress is expected as still five months project period remain.

Annex 7: QI projects in Ethiopia

Implementing Organization	Project period	Project name	Donor	Million EUR	Political partner
PTB	2002-2008	Support in the development of a customer-oriented quality infrastructure in Ethiopia	BMZ	0.8	
PTB	2006-2012	Support in the development of a customer-oriented quality infrastructure in Ethiopia (2nd Phase), PN 2006.2039.3, PTB-Nr. 95225	BMZ	1.4	
GIZ	2005-2008	Engineering Capacity Building Program (ECBP), PN 2005.2029.6 ECBP comprised four components: 1. University reform, 2. Vocational training reform, 3. Improvement of quality infrastructure, 4. Private sector development	BMZ	59 (+ 59 from the Ethiopian gvt)	
GIZ	2008-2011	ECBP Phase II, PN 2008.2076.1	BMZ		
GIZ	2011-2014	ECBP Phase III	BMZ		
GIZ	10/2012-03/2016	National Quality Infrastructure (NQI) Reform, PN 2011.2217.5	BMZ EU	5.0 5.7	Ministry of Science and Technology (MoST)
PTB	10/2012-04/2016	Promotion of Metrology and Testing in Ethiopia, PN 2012.2272.8, PTB-Nr. 95083	BMZ	1.0	
GIZ	2016-2019	Environmental and social standards in the textile and clothing industry in Ethiopia, PN 2016.2087.1	BMZ	4.0	Ministry of Industry (Mol)
PTB	01/2016-12/2019	Enhancement of Quality Infrastructure Services for Innovation in the Agriculture and Food Sector in Ethiopia and Ghana	BMZ (Special Initiative "ONE WORLD – No Hunger; SEWOH)	Ca. 1.0 (Ethiopia and Ghana together 2.0 million EUR)	Ministry of Agriculture (MoA)
World Bank	07/2017-07/2023	National Quality Infrastructure Development (NQID) Project	International Development Association (IDA) loan	50 Million USD (ca. 44.4 million EUR)	Ministry of Trade and Regional Integration (MoTRI)
PTB	01/2020-03/2024	Strengthening of the Quality Infrastructure for Innovations in the Agricultural and Food Sector in Ethiopia	BMZ (SEWOH)	2.0	MoA

Sources:

PTB project lists found in the internet; e.g., PTB, 2008: Liste der Projekte.

www.ptb.de/cms/fileadmin/internet/publikationen/jahresberichte/Jahresbericht_2008/entwprojekte.pdf

PTB, 2012: Lists of projects under implementation www.yumpu.com/en/document/view/11189273/list-of-projects-under-implementation-ptb

BMZ, 2008: Das „Engineering Capacity Building Program“ in Äthiopien. Kurzfassung der Evaluierung. BMZ Evaluierungsberichte 038. Juli 2008. silo.tips/download/das-engineering-capacity-building-program-in-ethiopien-kurzfassung-der-evaluierung;

GIZ, 2018: Ethiopia: National Quality Infrastructure (NQI) Reform. Project evaluation: summary report.

mia.giz.de/cgi-bin/getfile/53616c7465645f5f2259e671c009fac5dec47b9df228587596e54605c875331afbc479730e92455565cc5cedfd43c492d03953ba90bf76619c63ea555d2c8322/giz2018-0230en-projectevaluation-ethiopia-nqi-pev.pdf;

World Bank website, Ethiopia: National Quality Infrastructure Development Project, projects.worldbank.org/en/projects-operations/project-detail/P160279 (Access 4.11.2023)

Annex 8: Achievement of indicators

<p>Project objective: The use of quality infrastructure (QI) services which contribute to the application of quality-related innovations in the selected project regions and value chains of the agricultural and food sectors in Ethiopia has increased.</p>	<p>Outcome Indicator 1: 5 SMEs from the agricultural production and processing sector have adapted their quality assurance measures to the requirements of relevant standards and technical regulations. Values: Baseline: 0, Target value: 5, 10/2023: 7. The indicator has been achieved.</p>
	<p>Outcome Indicator 2: Agricultural and food laboratories are increasingly using interlaboratory comparisons to improve the quality of their analyses. Values: Baseline: In the period of 2016-2018 Ethiopian laboratories participated in a total of 113 interlaboratory comparisons; Target value: In the period of 2020-2023 Ethiopian laboratories participated in a total of 135 interlaboratory comparisons; 2020-10/2023: 175. The indicator has been achieved.</p>
	<p>Outcome Indicator 3: 70 % of the trained trainers confirm that they pass on their new knowledge of QI to SMEs and smallholder farmers. Values: Baseline: 0; Target value: 70 %; 10/2023: Data collection will follow through an external evaluator. The indicator has not yet been measured but is likely to be achieved.</p>
<p>Output 1: The conditions for quality assurance measures to be taken by SMEs from the agricultural production and processing sector are improved.</p>	<p>Output indicator 1.1: 5 standards or technical regulations on quality criteria have been elaborated or updated. Values: Baseline: 0, Target value: 5, 10/2023: 16. The indicator has been achieved.</p>
	<p>Output indicator 1.2: The National Metrology Institute is able to calibrate the customers' measuring instruments for air and grain moisture according to international specifications. Values: Baseline: 0, Target value: 1, 10/2023: 1. Humidity calibration equipment was supplied by PTB, incl. training. EMI already calibrates customers' measuring instruments accordingly. Grain moisture calibration equipment was supplied by NQIDP, trainings have been provided by PTB. EMI is able to calibrate customers' measuring instruments according to international specifications. The indicator has been achieved.</p>
<p>Output 2: The range of quality assurance services for agricultural and food laboratories has improved.</p>	<p>Output indicator 2.1: Local conformity assessment bodies offer 5 new services based on international requirements for assessing the quality of agricultural inputs, manufacturing processes or products. Values: Baseline: 0, Target value: 5, 10/2023: 0. Even though at present, the indicator has not been achieved, there is a high probability that it will be achieved by the end of the project.</p>
	<p>Output indicator 2.2: A national provider of interlaboratory comparisons operates in accordance with the ISO/IEC 17043 standard. Values: Baseline: 0, Target value: 1, 10/2023: ? The evaluation team is not able to assess if HARC operates according to the ISO/IEC 17043 standard. HARC as national soil PT provider is still in its pilot stage and should be supported in learning.</p>
<p>Output 3: Stakeholders from the agricultural and food sectors are better informed about quality requirements and QI services.</p>	<p>Output indicator 3.1: 5 additional target group-oriented information products of the QI institutions are available. Values: Baseline: 0, Target value: 5, 10/2023: 4. The indicator has been partly achieved.</p>
	<p>Output indicator 3.2: 10 sensitization or training events (training of trainers) on QI in the agricultural and food sectors were carried out. Values: Baseline: 0, Target value: 10; 10/2023: 10. The indicator has been achieved.</p>

Annex 9: NQIDP indicators measuring the use of QI services

Table 1: NQIDP indicators related to the number of enterprises utilizing NQI institutions' quality assurance services

	Baseline 30/06/2017	Target 07/08/2023	Actual 07/04/2023
Number of customers that used EMI's calibration services	31	340	499
Number of customers used ECAE's conformity assessment services (testing, inspection, and certification)	20*	312	412
Number of customers implemented standards with the support of IES	15	61	52
TOTAL	66	713	963

* Data questioned by ECAE at the Debriefing Workshop.

Table 2: NQIDP indicators related to the volume of Quality Assurance services delivered to all customers by NQI institutions during the budget year (01/07-30/06)

	Baseline 30/06/2017	Target 07/08/2023	Actual 07/04/2023
Number of calibration certificates provided by EMI	1728	8545	7671
Number of accreditation certificates provided by EAS	0*	64	22**
Number of conformity assessment service reports provided by ECAE	0*	64	1470
TOTAL	1728	8673	9163

* Data questioned by ECAE at the Debriefing Workshop.

** This low number corresponds with the information obtained by the evaluation team that many accredited laboratories did not renew their accreditation by paying the annual accreditation fee.

Source: projects.worldbank.org/en/projects-operations/project-detail/P160279 (accessed 17/10/2023).