Physikalisch-Technische Bundesanstalt
Braunschweig und Berlin
Nationales Metrologieinstitut

INTERNATIONALE ZUSAMMENARBEIT

EXTERNAL EVALUATION – SHORT REPORT

Key evaluator: Ms Suzana Lange

Technical evaluator: Ms Dorothee Majohr and Mr Roland Körber

Strengthening Food Testing and Metrology

Country | Region:	Armenia, Azerbaijan and Georgia | South Caucasus
Project No.:	2014.2204.7 / 95097
Period:	09/2014 - 09/2018
Executing Agency:	Physikalisch-Technische Bundesanstalt (PTB)
Implementing Partner:	National Metrology Institutes and Food Testing Laboratories
PTB | Working Group:	Q.51 Europe and the CIS
PTB | Project Coordinator:	Mr Moritz Ackermann
Date :	09.07.2017

List of abbreviations

BIPM	International Bureau of Weights and Measures
COOMET	Euro-Asian cooperation of national metrological institutions
DAC	Development Assistance Committee (OECD)
DeGEval	Evaluation Society (Swiss-Austrian-German)
EU	European Union
NMI	National Metrology Institute
OECD	Organisation for Economic Cooperation and Development
PTB	Physikalisch-Technische Bundesanstalt
QI	Quality Infrastructure
WTO	World Trade Organisation

1. Project Description

The evaluation covers the project "Strengthening Food Testing and Metrology in the South Caucasus Countries". It started in September 2014 and was extended in terms of duration and budget. The end is currently foreseen for September 2018 with a total funding amount of EUR 2,150,000.

The executing agency is the German national metrology institute Physikalisch-Technische Bundesanstalt (PTB). Due to the regional nature of the project, there is no overall South Caucasus political counterpart. The political partners on the national level are the Ministry of Economic Development and Investments in Armenia, the State Committee on Standards, Metrology and Patent in Azerbaijan and the Ministry of Economy and Sustainable Development in Georgia. The main implementing partners are the National Metrology Institutes (NMI) as well as public and private food testing laboratories from Armenia, Azerbaijan and Georgia. The target groups of the project are the consumers as well as the agriculture sector, (export oriented) small- and medium-sized enterprises and producers, state inspection services and other quality infrastructure (QI) stakeholders that depend on the availability and use of reliable food testing and metrology services.

The project objective is to enable food testing laboratories in the South Caucasus region to offer a wider range of internationally recognized services and to ensure that the reform processes of national metrology institutes are technically backed.
The objective is reflected in three project outputs and nine indicators on outcome and output level.

- Output A: Participating food-testing laboratories offer demand-oriented, internationally recognized testing services.
- Output B: Participating food-testing laboratories are nationally, regionally and internationally linked.
- Output C: The modernisation of national metrology institutes is technically backed.

The project builds on a previous PTB project (April 2011 - March 2014) in the South Caucasus region.

2. Assessment of the project

The aim of the evaluation is to identify changes that have occurred as a result of the project, to find out which are the success factors and to provide recommendations for beneficiaries, for the project management as well as for PTB's technical cooperation department. The evaluators assessed the project on the basis of the five internationally recognised criteria of the OECD Development Aid Committee (DAC) and the five success factors of the management model Capacity WORKS.

The main evaluator is Ms Suzana Lange, a freelance consultant for quality assurance of international cooperation projects. She has a Master’s degree in Political Sciences and is a certified organisational developer. Ms Lange complies with the DeGEval evaluation standards. The technical evaluators are Ms Dorothee Majohr and Mr Roland Körber. Ms Majohr has a diploma in

Chemistry. She works as a senior expert for the German Federal Ministry of Food and Agriculture for food analysis and residue control. Mr Körber is a veterinarian and a senior expert for food safety, public animal health and lab analysis. Both technical evaluators have extensive national and international experience and comply with international standards for laboratory quality control and laboratory evaluation.

For the assessment of the project, PTB successively provided to the evaluators all key project documents. The financial data was not made completely accessible by PTB due to data protection considerations, which limits the possibility of assessment of the financial aspects of the project. The evaluation report is based mainly on findings from a series of interviews and observations made by the main evaluator and the two technical evaluators. In the evaluation mission from 8-18 May 2017 the evaluation team met on site with representatives of the partner organisations and other relevant institutions active in the field in Azerbaijan, Armenia and Georgia. They were invited to participate as observers in a regional project steering committee meeting on 18 May 2017 in Tbilisi. During the second day of this meeting, the evaluators presented the preliminary evaluation results to partners from food testing laboratories, the PTB management team as well as a representative of the German Embassy in Georgia. In May 2017 the evaluators conducted some additional telephone interviews with PTB experts and other stakeholders. In total, the documents, interviews and observations provided sufficient information, clarifications and individual perspectives to get a well-rounded view of a variety of perceptions of the project.

2.1 Status of the change process

Relevance

The food sector is of central importance for international trade in the South Caucasus countries. Trade requires metrology measurement services, food testing laboratories and food testing methods that are recognised by their trade partners, with the EU being the most important one. The implementation of BIPM/COOMET recognised metrology measurement services at the NMIs and the internationally recognised accreditation of food testing laboratories based on ISO/IEC 17025:2005 contribute to trade facilitation. The project activities are consistent with the attainment of the project objective.
The project approach of focusing on technical support of a small number of selected private and state laboratories on the micro-level is complementary to other donors' approaches, which focus more on institution building of public stakeholders on the meso- and the macro-level. Beside political reasons of regional reconciliation, there are also good technical arguments for a stronger regional cooperation of project beneficiaries: Internationally recognised QI services such as calibrations or accreditations as well as support between food testing laboratories in geographical proximity save cost and time for private and public clients.

The relevance is rated with very good (1,0).

Effectiveness

The PTB project is reaching its goal, with only few remaining issues for the last project year. The project has set up a comprehensive list of project indicators and a baseline study to monitor the achievements both on outcome and output level. The evaluation team did a plausibility check of the project monitoring data and came to the conclusion that it is adequate, sound and reliable. There has been a huge progress from the start of the project to the present on food testing laboratory level. As a result of the project support, the participating food testing labs could extend their internationally recognised analytical methods (extension of the accreditation scope), they have been accredited on ISO/IEC 17025 by international recognised accreditation bodies or they are on the way to accreditation. The directly participating laboratories, as well as other stakeholders in the country, understood that fulfilling international requirements was necessary and possible.On the national, regional and international level, the PTB project initiated interpersonal contacts between participants as well as inter-institutional relations for peer-to-peer exchange, technical support and business relations.

The PTB project offered NMIs to technically back up and support their ongoing modernisation processes on request, but the demand for it was smaller than foreseen due to external delays. Common project activities for staff from NMIs and food testing laboratories have been a good basis to form a common understanding of international standards and calibration.
Unintended negative results have not been identified by the evaluation.

The effectiveness is rated with very good (1,3).

Impact

As all participating food testing laboratories and NMIs are able to provide new high quality services, there is a positive impact on increasing the competiveness of exporters, especially in selected relevant value chains. Trade barriers are reduced by the implementation of internationally recognised standards, accredited services of laboratories and the availability of NMI calibration services on BIPM/COOMET recognised parameters. Pilot projects improved the link and understanding between food testing laboratories and (potential) clients. The project has an impact on increased trust in test results and competences of food testing laboratories. All interviewed beneficiaries and relevant stakeholders understand the importance of an internationally recognized accreditation of testing laboratories and of internationally recognised metrological services.
One of the main obstacles to better food safety, consumer protection and more international trade is the insufficient governmental monitoring, inspection and market surveillance as well as self-control of producers. Gaps or inconsistencies in the legal framework jeopardize the work of professional food testing laboratories.The PTB project tackled technical issues instead of general framework conditions, but this approach nevertheless leads to regional approximation and even regional reconciliation.

The impact is rated with very good (1,3).

Efficiency

Until May 2017, EUR 1.6 million out of the total project budget of EUR 2.15 million were spent. The use of project resources for consultancy, training, workshops, hands-on/ online support, small equipment and standards is appropriate with regard to the achieved results. PTB technical assistance projects in general are characterised by a low level of staff costs, as there is no permanent office infrastructure in the partner countries. Increased capacities of beneficiaries' staff are reflected in efficient, but cost-intensive training and consultancy activities. Whereas the number of activities conducted in each of the three beneficiary countries is roughly equal (52 activities in Azerbaijan, 53 in Armenia and 49 in Georgia), the budget spent on these activities differs due to different levels of required expertise and local costs. The beneficiaries contributed a limited amount of their own financial resources (in-kind) to the project activities. The project conducted 86 activities with 970 person-days for international experts. The project activities were conducted in a very thorough, comprehensive and efficient way. All project decisions were based on technical needs related to the objective of the project. The input from the project is matched with a good absorption capacity of the food testing laboratories. The opportunity for coordinating with other cooperation projects was well used.

The efficiency is rated with good (2,0).

Sustainability

The main guarantor for sustainability is the own interest of participating food testing laboratories to maintain and extend their internationally recognised accreditation for methods and areas, which are required on the market and by legislation. The trained professionals pass on their knowledge to colleagues inside and outside their institutions. There is divergent readiness across laboratories to further sufficiently invest in continuous learning in order to be able to survive on the market in the long term. Laboratory services can only be maintained if there is a demand for these services, but demand is limited due to the lack of respective national legal procedures, official food control and monitoring programmes.
The participating laboratories are considered as best practice examples that have a pull effect on competitors.
There are also direct and indirect spill over effects to other QI stakeholders, such as the line ministries, the national accreditation bodies, food agencies and the educational sector. The international recognition of the Georgian accreditation body GAC is both a good sign and a risk for the project. Hence the achievements in the project environment are not necessarily irreversible, due to unclear political framework conditions, market dynamics and a lack of own initiative in engaging in national and international networks for future cooperation.

The sustainability is rated with good (2,0).

2.2 Success factors for the observed results and change processes

Strategy

The PTB project has a very clear strategy that is not only understood, but also explicitly appreciated by all stakeholders. The project clearly fosters internationally recognised metrology measurement services, food testing methods and accreditation on ISO/IEC 17025. It provides comprehensive support on individual, organisational and network level, from theoretical knowledge to practical implementation. Equal treatment of all three countries, regardless of (geo-)political framework conditions, opened the door to good and unbiased working relations with all partners. Potential change agents were identified in all three partner countries.Developing dynamic and promising food testing laboratories that are both users and providers of QI services is positively changing the framework in the countries in a bottom-up approach. It is also creating the enabling conditions for putting in place more demanding food safety regulations and more stringent monitoring and enforcement, which will raise the level of consumer protection domestically. The clear strategy in the area of food testing results provides a good visibility of the project and enables the use of synergies with other cooperation projects in the South Caucasus region. The cooperation in the area of metrology is broader, less clear and less dynamic. Hence, all project partners are in favour of this flexible and demand-driven approach.

Currently achieved: 100%, potentially achievable: 100%

Cooperation

All interviewed stakeholders welcomed the selection of beneficiaries, although the transparency of the selection process could be improved. The selection criteria were mainly a combination of potential, motivation and absorption capacity. Whereas it was positive to have limited the number of beneficiaries and have worked in closed groups to achieve results also on sensitive issues in the first project years, the last project year should be used for broader dissemination. In addition to individual support, the food testing laboratory representatives are brought together in group activities. The possible synergies between the beneficiaries by linking them on a national, regional and international level are partly used, but are limited due to the competition between laboratories. The cooperation between the NMIs of the three partner countries was not as intense as the cooperation between food safety laboratories.There are many other ongoing cooperation projects in the QI sector in all three partner countries. Overlaps could be avoided and some synergies could be used thanks to a continuous exchange as well as the clear strategy and the technical scope of the PTB project.

Currently achieved: 80%, potentially achievable: 90%

Steering structure

The very good results can be explained by a very good project planning. A comprehensive baseline study with a thorough needs assessment was the basis for regular and flexible operational planning. The project set up a participatory steering structure on three levels: on operational level between experts and laboratories, on national level with other relevant stakeholders,

and on regional level with all participating food testing laboratories. The steering committees cover various relevant and also sensitive management topics and are used for common result-based monitoring.The project processes rely on an open exchange of information. The beneficiaries built up trust in the local and international PTB staff and PTB experts, which enabled such in-depth support. All beneficiaries and other stakeholders emphasized the personal engagement, the multidisciplinary technical understanding, the regional experience and the management capabilities of the PTB project coordinator.

Currently achieved: 100%, potentially achievable: 100%

Processes

The PTB project has used a variety of formats to provide individual and group support on the organisational level of participating food testing laboratories and NMIs and on individual level of their staff. The sequencing of formats is well thought out. The beneficiaries appreciate the good mix between theory and practice, the high quality of expertise and management as well as the demand-driven approach.
The activities for food-testing laboratories covered mainly issues regarding quality management and accreditation on ISO/ICE 17025, consultancy, training on testing methods and working with essential analysis techniques, international networking, maintenance of laboratory equipment and client oriented activities. The project brought the attention to new relevant issues.
The activities for NMIs covered mainly issues regarding training and implementation of calibration services, quality management on ISO/ICE 17025 and metrology consultation. The activities supported the development and implementation of demand-oriented measurement services.

Currently achieved: 90%, potentially achievable: 90%

Learning and innovation

The project focussed on the technical level instead of political framework conditions by improving the competences of staff and management and the status of beneficiary organisations, which showed good results. In its final phase it is recommended to increase dissemination and scaling up by opening more activities to other laboratories, QI stakeholders and potential private clients. The achieved progress of laboratories should be widely communicated to attract customers, to create a demand, to increase their lighthouse function and thereby to spread the understanding of benefits of quality standards and international recognition.
Some reluctance by beneficiaries can be noted about the added value of common network activities compared to individual progress. Nevertheless, the connections initiated by the project are a window of opportunity for creating networks in the region and for integrating them into international networks, which is necessary for further development in the future. Different peer-to-peer approaches, that are suitable for creating continuous learning and innovation effects after the end of the project, were partially practised in the project and should be further explored.

Currently achieved: 80%, potentially achievable: 90%

3. Learning processes and learning experience

In summary, the evaluation team concluded that the PTB project is reaching its goal, especially regarding food testing. The interviewed private beneficiaries seem to have understood the correlation "no standards = no accreditation = no trust = no trade". There was a unanimous and extremely positive feedback on the project provided by all evaluation interview partners.

Identified factors of success are, among others, a stringent set up and implementation of the project, a thorough needs analysis and prioritization, the identification of activities of common interest for the region, the flexible and engaged management, an appropriate selection of highly qualified international experts providing targeted training and consultancy (on the field and by online support), a mix between theoretical input and hands-on training (including maintenance) in laboratories and, last but not least, a good absorption capacity plus motivation of beneficiaries.

4. Recommendations

The project approach and implementation are evaluated as very successful, so that there are no major recommendations to be made.

Stakeholder: "Everything I have been seeing until now is good, so we should not change."

The evaluators recommend completing the prioritised activities on individual and regional level as planned. In the last project year, dissemination activities involving other laboratories and stakeholders should be intensified and public relations activities targeted to potential clients from the private food-producing and food-processing sector as well as the general public should be set up.The evaluators do not see a need to prolong or extend the project. If there is a project prolongation, the evaluators recommend channelling the PTB support through network activities, which should be identified and partly implemented by the partners themselves. In this case, the project should introduce the obligation to transfer and monitor the sharing of knowledge with other stakeholders.
Recommendations for the partners:

- National accreditation bodies should be encouraged to use trained staff from participating laboratories as assessors/auditors for external evaluation and accreditation (the auditors need a certificate for this task)
- Further implementation of multi-test methods by flexible scope (PCR for microbiological parameters; GC-MS and LC-MS/MS for pesticides in fruits).
- Preparation and development of more EU/WTO relevant food testing methods (internationally recognized)
    a. Pesticides in fruits, vegetables and wine (multi method up to 250 parameters)
    b. Residues of veterinary drugs, hormones and contaminants regarding EU directive No 96/23 (group A and B)
    c. Food contaminants regarding EU reg. 1881/2006 (mycotoxins OTA, DON, Patulin; 3-MCPD; PAK-Benzo(a)pyren)
- Specification of validation of test methods depending on:
    a. Group of parameters

b. Techniques of analysis
c. Concentration level
d. Complex test methods regarding pesticides and residues of veterinary drugs

- Advanced hands-on training for mass spectrometry in local laboratory in South Caucasus (GC-MS, LC-MS/MS)
- Sampling, transport and storage of various food samples according to internationally recognized procedures (together with inspectors from the national food agencies)
- General training for risk assessment on the laboratory level
- Georgia – hazelnuts fraud: Implementation of new internationally recognized test methods regarding PCR proteins of different kinds of nuts and wine authenticity proof
- Armenia – wine quality: Offering of equipment and material for screening tests in wine and consultation in terms of wine quality and organic production
- Azerbaijan – hazelnuts quality: Offering of screening tests for aflatoxins and consultation in terms of hazelnuts quality and hazelnuts production/storage with the label “free of aflatoxins”

Recommendations for the project management team:

- To avoid imputations regarding the influence of German official development aid on internal market structures, it might be advisable to conduct the selection process of beneficiaries in a more transparent way, e.g. by giving clear indication on the selection criteria and their scoring and by involving the political partner in a selection committee.
- The project end should be clearly communicated to the beneficiaries, who should reconsider whether they would like to use more resources for building up networks that might attract further exchange and support in the future.
- The project should further initiate, pilot and foster peer-to-peer support between the beneficiaries, such as internships, job-shadowing, sharing of best practices, exchange of local experts, etc.
- Connecting the project beneficiaries with appropriate international networks, institutions and exchange programmes on international level could be intensified for the remaining part of the project, if possible in synergy with other cooperation projects.
- Having in mind future division of work, there should also be explicit training on management and work flow of routine food testing laboratories (LIMS included).
- While it was positive to have limited the number of beneficiaries and have worked in closed groups to achieve results also on sensitive issues in the first project years, the last project year should also be used for broader dissemination, involving more laboratories from the three project countries.
- Joint activities with other key stakeholders such as national food agencies and national accreditation bodies- if possible to be organised in synergy with other donor projects - should target a common understanding of international standards and procedures and better policy (e.g. clearer division of tasks).
- Joint activities with (potential) clients - if possible to be organised in synergy with other donor projects - should aim at more business contacts and a better mutual understanding of needs and possibilities.
- The achievements of the laboratories and the benefits of internationally recognised accreditation should be properly advertised to the general public.