

EXTERNAL EVALUATION – SHORT REPORT

Key evaluator: Lutz Neumann
Technical evaluator: Stefan Wallerath

Strengthening Quality Infrastructure in Sri Lanka



Country Region:	Sri Lanka
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PTB Working Group: PTB Project coordinator:	Div. 9.32 Asia Daniel Böhme
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This is an independent evaluation. The contents represent the view of the evaluator and cannot be taken to reflect the views of PTB.

List of abbreviations

APLAC	Asia Pacific Laboratory Accreditation Cooperation
APMP	Asia Pacific Metrology Programme
ARW	Awareness Raising Workshop
BMZ	Bundesministerium für wirtschaftliche Zusammenarbeit und Entwicklung Federal Ministry of Economic Cooperation and Development, Germany
CAB	Conformity Assessment Body
CCiy	Chamber of Commerce and Industry of Yarlpnam
CIPM	Comité International des Poids et Mesures
CMC	Calibration and Measurement Capabilities
DAkkS	Deutsche Akkreditierungsstelle GmbH National Accreditation Body of the Federal Republic of Germany)
DeGEval	Gesellschaft für Evaluation e.V. Evaluation Society
EUR	Euro
GIZ	Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH
GMP	Good Manufacturing Practices
IDB	Industrial Development Board
ILC	Interlaboratory comparison
iSTE	International short-term expert
ISO	International Standards Organization
ITI	Industrial Technology Institute

KCDB	Key Comparison Database
LTTE	Liberation Tigers of Tamil Eelam
MEDEA	Metrology-Enabling Developing Economies in Asia
MoIC	Ministry of Industry and Commerce
MoSTR	Ministry of Science, Technology and Research
MRA	Mutual Recognition Arrangement
MUSSD	Measurement Units, Standards and Services Department
NAB	National Accreditation Body
NMI	National Metrology Institute
NSB	National Standards Body
NWSDB	National Water Supply and Drainage Board
OECD	Organization for Economic Co-operation and Development
PDHS	Provincial Director of Health Services
PHI	Public Health Inspector
PRI	Palmyra Research Institute
PT	Proficiency Testing
PTB	Physikalisch-Technische Bundesanstalt
QI	Quality Infrastructure
SAARC	South Asian Association for Regional Cooperation
SLAB	Sri Lanka Accreditation Board for Conformity Assessment

SLATL	Sri Lanka Association of Testing Laboratories
SLSI	Sri Lanka Standards Institution
SME	Small and medium-sized enterprises
TVET	Technical Vocational Education and Training
UCJ	University College of Jaffna
UNHRC	United Nations Human Rights Council
UNIDO	United Nations Industrial Development Organization

1. Project Description

The project ‘Strengthening Quality Infrastructure in Sri Lanka’ is mandated by the Federal Ministry for Economic Cooperation and Development, Germany (BMZ) and jointly implemented by the Physikalisch-Technische Bundesanstalt (PTB) and the governmental partner Ministry of Industry and Commerce (MoIC) of the Democratic Socialist Republic of Sri Lanka. The key implementing partner organization is the Measurement Units, Standards and Services Department (MUSSD), among other governmental and non-governmental partners that are instrumental for reaching the goals.

The object of the evaluation is the full project cycle (01/2016 – 12/2018). The project has a budget of up to 1,000,000 EUR. The instruments of the project are mainly short-term expert assignments, trainings and workshops to support capacity development of institutions and small and medium-sized enterprises (SMEs) in a multi-stakeholder environment. Beyond the key institutions of the National Quality Infrastructure (NQI) comprised by the MUSSD, Industrial Technology Institute (ITI), Sri Lanka Standards Institution (SLSI) and Sri Lanka Accreditation Board for Conformity Assessment (SLAB), the project interacts in the north with the laboratories of the Palmyra Research Institute (PRI) and of the National Water Supply and Drainage Board (NWSDB) in Jaffna and Vavuniya, the University of Jaffna, the University College of Jaffna, the Provincial Department of Health Services (PDHS), the Chamber of Commerce and Industry of Yarlpanam (CCiy) and SMEs.

The core problem as assessed by the project centers on lack of availability of reliable and recognized Quality Infrastructure services, in particular for industry and consumers in the northern region, that inhibit a more intensive involvement of SMEs in domestic as well as international trade. The project thus intends to contribute, in accordance with Sustainable Development Goal (SDG) 8, to improving the framework conditions for long-term, inclusive and sustainable economic growth.

2. Assessment of the project

The analysis based on the OECD-DAC criteria shows that the project achieved positive ratings across all criteria. Efficiency is rated with highest marks. Owing to this number of points (1.8), the project is given the overall rating: “successful”.

Criterion	Criterion assessment
1. Relevance	2
2. Effectiveness	2
3. Impact	2
4. Efficiency	1
5. Sustainability	2

Global assessment **1.8**

2.1 Status of the change process

The metrological hierarchy in Sri Lanka does not follow the international scheme (national metrology institute (NMI) / designated institutes – secondary labs – users) but due to not yet achieved international recognition of MUSSD the secondary laboratories, like SLSI, ITI and others, trace their reference standards to internationally recognized NMIs and calibration laboratories abroad.

Relevance

The project is relevant. In accordance with Sustainable Development Goal No. 8, the project supports to improve the framework conditions for long-term, inclusive and sustainable economic growth. Further links can be made to SDG 9, and indirect links to SDG 3. When looking at the bigger picture beyond the commissioned BMZ mandate, the evaluators state: Quality Infrastructure (QI) contributes to various intervention areas of the National Policy Framework, e.g. enabling business environment and market facilitation. However, both the BMZ approach to Sri Lanka as well as the fact that the food sector in the Northern province was selected for the project because of its importance for immediate basic needs (food security and tackling food and water borne diseases, to a lesser extent domestic trade and job creation for marginalized population) lead to rather little relevance for the international competitiveness of Sri Lankan industry (e.g. high-tech, electronics, garments for export etc.) and for QI intervention areas that foster research and development (R&D) in enterprises, thus for a development path of the country that would foresee further integration in regional and global value chains. Therefore, the fundamental orientation of the concept with respect to long-term development policy affects the relevance criterion and some other criteria (e.g. impact, strategy) negatively.

Mark: 2 / successful.

Effectiveness

The overall approach is realistic and plausible. With regards to the project's logic the evaluators assess that the outputs feed well into the outcome level, namely each output is assigned to one of the three components, however, the mismatch of limited developmental impact of the achievements in component A) for components B and C is founded in the project conception. A wide scope of services (i.e. mass, balances, volume, dimensional, temperature, electrical, pressure, force) is internationally recognised through ISO 17025 accreditation by the Sri Lankan National Accreditation Body (SLAB). The level of services required by components B and C (and in general by most customers of calibration services) is widely covered by the Industrial

Technology Institute (ITI) and the Sri Lanka Standards Institute (SLSI), whilst the NMI MUSSD has till present not achieved any international recognition of its measurement capabilities.

Mark: 2 / successful.

The following table provides an overview of the assessment of the outcome indicators and determines whether the objectives have been attained (degree of fulfilment in %) and to what extent were the indicators suitable for the results-based monitoring and the evaluation (Appraisal: A = adequate indicator; B = slight objections; C = poor indicator, to be revised if possible):

Outcome indicator	Degree of fulfilment (in %)	Appraisal (A-C)	Justification
<p>1) The national metrology system offers calibrations for two additional measuring ranges to laboratories and companies.</p> <p>Initial value (2016): 0 Target value (2018): 2 Actual value: 0 (fulfilment of 50 % expected, however range from 0 % to 100 % possible)</p>	50 %	B	<p>Pressure and temperature laboratories of MUSSD have been selected to be supported. ILCs conducted in both fields. Application for accreditation of temperature have been submitted to SLAB. No clear picture received on recognition of pressure lab (accreditation vs CMCs) from MUSSD.</p> <p>Indicator in German language BMZ proposal states “internationally recognized” calibrations”. Internal definition of results matrix consider participation in ILCs to be sufficient. Doubtful if initial accreditation scope of MUSSD laboratories can provide traceability to ITI and SLSI.</p>
<p>2) The number of laboratories taking part in inter-laboratory comparisons in the food sector will increase annually by an average of 2.</p> <p>Initial value (2016): 0</p>	50 %	C	<p>Three laboratories from Northern region have participated in PTs (PRI, Jaffna and Vavuniya Water Board) provided by SLATL on an annual basis. Other PT options were assessed (ITI, FAPAS). This different interpretation of indicator 2 – counting the number of attended PTs - has been discussed with BMZ but has not yet been documented. It would have been reasonable to have revised and</p>

<p>Target value (2018): 2 annually, 6 in total</p> <p>Actual value: 3</p> <p>(fulfilment of 100% possible - to be put under BMZ review whether instead of the number of labs the number of PTs count)</p>			<p>changed this indicator early on, since no more than 3 testing laboratories are active in Northern region, thus the evaluators rate this indicator “C”. The project states that any indicator adjustments were ruled out by PTB internally in April 2017.</p>
<p>3) Testing labs in the Northern region offer at least two new testing services, which will be in accordance with international requirements.</p> <p>Initial value (2016): 0 Target value (2018): 2 Actual value: 2</p>	100%	A	<p>Three laboratories in the Northern region (PRI (various analytes in Palmyra products), Jaffna (chemical and microbiological analytes, heavy metals) and Vavuniya (chemical and microbiological analytes) Water Board) offer various new testing services. PRI is accredited for chemical analytes, preparing for extension to microbiology.</p> <p>Noteworthy distinction made in wording of indicator “internationally recognized” vs. “in accordance with international requirements”.</p>
<p>4) Businesses from the Northern region will increasingly take advantage of the QI information tools and services established in the food sector.</p> <p>Initial value (2016): 3.04 Target value (2018): 6.04 Actual value: 5.80</p> <p>(to be put by PTB under review with BMZ about target value and counting unit)</p>	92%	B	<p>Indicator almost achieved by taking more complex comparison (use of different information tools and channels, use of testing, verification and calibration services) between baseline and end-line SME study into consideration. Adopted approach (new counting units and data generation) has not been reported to BMZ.</p> <p>Three (3) additional information tools and services used as foreseen in the BMZ proposal do not adequately measure the change processes, thus the evaluators rate this indicator “B”</p>

Impact

The attainment of higher-ranking development objectives in the Northern region is still indicative. Out of a total of approximately 4.000 food handling companies in the Northern region, the project has reached 367 SME (approx. 10% penetration of the sector in the Northern region). This was accomplished by the SME attendance of at least one of the more than 15 awareness raising workshop (ARW) and Training of Enterprises (ToE). 23 SMEs could be coached individually to improve their compliance with the requirements of hygiene in the production process and ultimately GMP certification. All those achievements were only possible through successful networking with various institutions in the Northern region (CCiy, UCJ, University of Jaffna, PDHS), so that multipliers could be trained (Training of Counsellors) and used for the individual weekly coaching of SMEs (Training of Enterprises).

The three supported testing laboratories in the Northern region - Palmyra Research Institute (PRI), Water Board laboratory in Vavuniya and in Jaffna – are now in the position to offer internationally recognized services. PRI is successfully accredited for various parameters – chemical and intends to extend to microbiological ones - mainly referring to Palmyra based food products, however the microbiology lab is based on wider customer demand (e.g. ice cream). Water Board laboratories have demonstrated to work according to international requirements and have applied for accreditation of 8 chemical water quality parameters. Preparation for the extension of the accreditation to microbiological parameters and heavy metals are ongoing. The budget for initial and recurring costs seems available. The laboratories also offer their services to external customers, e.g. food processors being obliged to document the quality of their utilised water once annually to the PDHS. Furthermore, surface and ground water sources are monitored regularly, including the wells supplying public schools. The availability of recognised testing services has a direct impact upon producers and consumers in the region.

Unintended positive effects emanate from the availability of Water Board laboratory services. Those laboratories can now, for instance, also test the water supply for schools, and can thus help to reduce water borne diseases in formerly remote areas (from the perspective of laboratories in capital) to an extent which has not been possible before.

Broader prospects for impact relate to a change of culture in Northern enterprises regarding hygiene and quality, and in institutions like PDHS regarding their evolution from just being a control institution to a self-understanding as a service provider for the local SMEs.

Mark: 2 / successful.

Efficiency

The project was found to have made high use of resources in the given time period according to project finance files and views presented in stakeholder interviews. The funds allocated per

component stand regarding component A at 36%, regarding component B at 20%, and regarding component C at 44% (as of June 2018).

The allocation efficiency differs across the components. In component B and C and the interaction between all three components the efficiency as it was continuously fostered by the project management and the steering group is very high. In component A there is a low allocation efficiency, because the rather high-end goals in measurement improvements in metrology in MUSSD are way beyond the project objective which is coined with regards to the priorities and developmental needs of the laboratories and SMEs in the North. ITI and SLSI in coordination with SLAB did solve the non-conformities from the pre-assessment progressed with PTs and contributed to high efficiency.

The possibility of coordinating activities with other international partners like GIZ and UNIDO has been actively explored, and exchange and donor harmonization took place.

The evaluators highlight very low operational costs of key activities of component C, e.g. baseline survey EUR 1,500; 2 EUR/trained participant (AWR); 12 EUR/counselling visit (23 SMEs weekly for 6 months); cost savings by establishing a PTB office in Colombo in combination with accommodation for coordinator and experts (compared to hotel accommodation and workshop venues).

Mark: 1 / very successful.

Sustainability

The following changes that the project has supported will likely be durable:

The accreditation system has been strengthened by ILCs, PTs and could further be strengthened by preparing for the upcoming peer review particularly in the area of calibration MRA. This will assure short and mid-term traceability of measurements.

Knowledge transfer linkages have been established via component B and C at different levels (labs, CCIY, PHI, counsellors, SMEs) that will safeguard the quality assurance of food production and handling. By January 2019, GMP will become mandatory and drive the demand for project-supported QI services and qualified staff. The project took this government decision into account and advised via component A that, for instance, the University of Vavuniya is planning to adjust the curriculum regarding “teaching metrology”, and that the constellation of stakeholders is set to continue with the SME counselling scheme, and to eventually monetarize the scheme along existing incentives.

Need for action remains to develop and agree on a metrology strategy within the QI system that avoids duplication of metrology investments in three institutions (MUSSD, ITI, SLSI) and leads to MUSSD’s international recognition (component A) and a more partner-driven financing and clarification (as foreseen by the project) of the SME approach.

Mark: 2 / successful.

2.2 Success factors for the observed results and change processes

The project produced a 25-pages document 'Capacity WORKs for Project Implementation: Guideline and Reflections' (file: 2018-03-15_CW_concept_v02) dated March 2018 (in short: 'CW project document 03/2018'), which poses and answers selected project management questions. The PTB project team applied this "as a kind of midterm reflection". The project states in the CW guideline that key partners in each component are informed at least once per week by one of the team members about current developments. The evaluation mission supported the information provided in this document, and the evaluators contribute just some minor reflections. The project's reflective practice was acknowledged and much appreciated by the partners, especially by the members of the steering group.

Strategy

Throughout the project-life-cycle, PTB has involved all relevant stakeholders in the design and implementation. Besides the limited developmental impact of component A and the challenge of a big picture systemic change of the national metrology system, the project's logic is following an ambitious multilevel approach with multiple linkages between the components. The high ambition was met in practice by the steering group, project staff and experts. The "right" partners have been on board, except for tackling the aspect of big picture systemic change, where higher political leverage would have been necessary but not feasible within the given set-up of the project.

Level of achievement: 80 %

Cooperation

The project operated based on an implementation agreement with MoIC dated April 2016. Within the administrative formalities the choice of partners was adjusted over time, for instance the Ministry of Health and PDHS came on board and Chambers (outside the CCIY in Jaffna) left the inner circle.

One of the most important steps of the project was to map stakeholders and to define their roles, and to set-up a project-related coordination (for lack of the possibility to use an existing partner mechanism). The project managed to create cooperation between all components and reached a self-sustaining mechanism with partners within component C, where CCIY and SMEs, UCJ, University of Jaffna, PDHS cooperated. The group of stakeholders did not include people and networks that could have substantially tackled the shortcomings of the metrology and QI system on the strategy level (see November 2017 strategy report), however the evaluators note that the

project management and members of the steering group did push such issues to the extent politically possible.

Level of achievement: 90 %

Steering structure

The steering structure of the project has been functioning well. However, it has been stopping short of providing sufficient impulses for big picture change in the metrology and larger QI system. In 2016, the project discussed several steering options, and decided for the current structure: “the socio-cultural context and the special situation of working in a conflict-prone environment with Sinhala and Tamil Sri Lankans have carved the steering structure of the project. From the beginning it was clear that all partners need to have the chance to participate in one way or the other (“leave no one behind”). On the other hand, the steering structure was defined to be functional and, therefore, not every partner is represented on each level.”

Noteworthy are the tools of regular (3-4 times per year) progress emails and a subsequent brief newsletter (1 page) sent to more than 140 stakeholders which aims at improving horizontal communication between the stakeholders of the three components of the project.

Level of achievement: 90 %

Processes

The processes are identified and well defined, and several types of core, steering and support processes are mapped by the project team. The roles and responsibilities for international and national staff, and for implementing stakeholders (e.g. CCIY, counsellors) are clear.

Level of achievement: 90 %

Learning and innovation

The project documented the lessons learned per indicator from outcome down to output level and milestones quarterly. It followed clear processes for dissemination of information to all relevant internal and external stakeholders and generated the following innovations: graded steering, SME approach, twinning of Sri Lankan and international experts, centrally located, but cost-efficient PTB project office, “list of ideas” for developing proposals, “owncloud” for filing and smart sharing of documents.

Level of achievement: 100 %

3. Learning processes and learning experience

The project has demonstrated that a QI-project can achieve impact at micro-level and work closely to the target group. This has been made possible by a number of unique and first-time solutions by the project management and PTB “International Cooperation” department, and it is based on openness, flexibility and positive attitude to risk-taking on the side of the department and on the side of the project on outstanding planning, monitoring and documentation of the processes and progress made and a permanent local infrastructure (Colombo office, full-time national administrative support, national key experts working regularly and closely with the target group, plenty of accounting micro-processes for reimbursements of partners through headquarters).

A certain mismatch in the project conception concerning the objective showed on the ground limited developmental impact of achievements in component A (MUSSD) for components B and C. The strategic options for QI system development have been spelled out, but this could have been done more clearly to a group with higher political calibers than the steering group.

In the Northern region, the institutions in component B and C have delivered. The support to testing laboratories in the North in preparation of international recognition of their services was successful and can be replicated. The commitment and motivation of staff and management were key to the success. SME site visits showed that the educational videos (in Tamil) connected well to the management and workers. The counselling is mutually beneficial (for the SMEs, the graduate students, the lecturers, the CCIY, PDHS) and interviewed companies state it has an immediate effect on monetarization of services and job creation. In principal, the target-group orientation and results in the Northern region show that the approach to support SMEs and CABs can be rolled out to another region.

4. Recommendations

The evaluators issue 11 recommendations. Essentially, the multi-level and SME approach should be continued, however change of the big picture be encouraged. MUSSD should be supported with a clearer view to linkages for development (e.g. demand survey a good start) and partners like MoIC and MoST (and their entities) for a more efficient National Metrology System (smart specialization, designation). The accreditation system, particularly for the maintenance of APLAC MLA for calibration (08/2019) and extension for PT providers, needs special attention.