

EXTERNAL EVALUATION – SHORT REPORT

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Promotion of Quality Infrastructure with Emphasis on the Energy Sector

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PTB No.:
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Evaluation Period: 02/2015-06/2015

PTB Working Group: Q52
Project Coordinator: Corinna Weigelt

This report was elaborated by an independent evaluator (Jens Koy) for the PTB. It reflects exclusively the evaluators' opinions and conclusion

List of abbreviations

BMZ	Federal Ministry for Economic Cooperation and Development <i>Bundesministerium für Wirtschaftliche Zusammenarbeit und Entwicklung</i>
DDR	German Democratic Republic <i>Deutsche Demokratische Republik</i>
DO	Implementing organization <i>Durchführungsorganisation</i>
EU	European Union <i>Europäische Union</i>
EZ	Development cooperation <i>Entwicklungszusammenarbeit</i>
GASI	General Agency for Specialized Investigation
GIZ	Society for International Cooperation <i>Gesellschaft für Internationale Zusammenarbeit</i>
GOST	Gosudarstwenny Standart
IEC	International Electrotechnical Commission
iKZB	intermittent short-term expert <i>intermittierender Kurzzeitexperte</i>
ISO	International Organization for Standardization <i>Internationale Organisation für Normung</i>
KfW	Reconstruction Credit Institute <i>Kreditanstalt für Wiederaufbau</i>
MASM	Mongolian Agency for Standardization and Metrology
PTB	Physikalisch-Technische Bundesanstalt Physical-Technical Federal Institute

QI	Quality infrastructure <i>Qualitätsinfrastruktur</i>
TZ	Technical cooperation <i>Technische Zusammenarbeit</i>

1. Project Description

The evaluated project of the Physikalisch Technische Bundesanstalt (PTB) is a module of the German bilateral development cooperation's "energy efficiency" program with Mongolia. Beside PTB, which coordinated a 0,6 Mio € module, the German Kreditanstalt für Wiederaufbau (KfW) and Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) contributed larger modules, with budgets of 25,09 Mio € and 6,4 Mio. € respectively. The PTB module, referred to from here on out as the "PTB-project", started in 08/2012 and will end in 07/2015.

The aim of the "energy efficiency" program is that *"by increasing the energy efficiency, an effective contribution to economic and environmentally sustainable supply and use of energy and security of supply in Mongolia is to be done."* The objective of the PTB-project evaluated here is that *"the prerequisites for a contribution of the quality infrastructure to the improvement of the energy efficiency are established with the means of a coordinated standardization process and improved metrological services."*

In the project, PTB is working together with the Mongolian Agency for Standardization and Metrology (MASM) and the Mongolian Ministry of Energy. The project is about capacity building in metrology (voltage) and standardization (adjustment of international standards to the extreme climate in Mongolia), as well as consultancy concerning the development of a modern quality infrastructure (QI) strategy for Mongolia. Activities have included short-term consultancies in Mongolia, business trips of Mongolian experts to workshops in Germany, Korea and Indonesia, and the supply of technical equipment for MASM's electricity laboratory.

PTB assumes that the setting of a coordinated standardization process and the development of adequate services in metrology requires about 10 years. Therefore, the project evaluated here is an entry phase into a longer consultation process.

2. Assessment of the project

The evaluation was prompted by the scheduled end of the project in 07/2015 and the extent to which the experiences of the first project can be optimally integrated into a second project under consideration by PTB and the partner organizations.

The evaluation team was composed of Lea Zeppenfeld (PTB project coordination for Africa and Middle East), Jens Koy (independent evaluator) and Undraa Suren (translator English/Mongolian). Jens Koy was the team leader and had the overall responsibility for reporting and implementation of the evaluation. The composition of the team assured a combination of PTB-internal and PTB-external perspective to the project. Data collection methods included the analysis of documents and interviews with internal and external project stakeholders.

The following aspects of the context are important for the analysis of the project:

- a) The enormous challenges to the implementation of standards and the provision of a quality infrastructure for a resource-rich developing country. Mongolia's strongly expansive economic development has indeed slowed significantly due to declining commodity prices on the global market. Nevertheless, Mongolia is one of the fastest growing economies in the world, albeit starting from a low level.
- b) The persevering influence of administrative action (top-down) from socialist times. Regulation and metrology are not new in Mongolia. The MASM looks back at 92 years of history.
- c) Mongolia's development trajectory is inextricably linked to its large neighbors, Russia and China. Maybe it has strategic interests in approaching the EU, but there is little pressure to conform to EU standards. Therefore, the situation is different than in the states of Eastern Europe, which were working towards EU membership after 1990.
- d) The struggle for Mongolian and international actors concerning the distribution of profits and commodities.

Results

Status of the change process

The overall rating of the project is 3 (three);

(on a scale of 1 (very good) to 6 (unsatisfactory)). In detail:

Relevance, rating: 2. Overall, the PTB project was designed conclusively. For a reasonably independent development of its energy sector, Mongolia requires an adequate quality infrastructure because the country is enclosed by the neighboring countries Russia and China. However, there are unresolved questions, such as how the effects - in particular the core process standardization – are transferred from capacity building at an individual level to the organizational level and how these services are provided to the economic sector, academia and consumers for the development of Mongolia. Hence, rating 2 with tendency 3.

Effectiveness, rating: 3. The project is carried out in a difficult context. The project partner MASM underwent several changes at the executive level during the project period. Hence, work on a QI-strategy that would include extensive organizational changes within MASM was brought to a halt. Therefore, the effectiveness of the project in two core processes is only in the lower / middle portion (standardization 50%, QI-strategy 35%) and in the core process metrology, which is less affected by the forthcoming organizational changes, in the high range (90%).

Impact, rating: 3. So far, little impact has been achieved. This is partly due to the short timeframe of the project and the fact that the core processes QI-strategy and standardization falter or progress slowly.

Efficiency, rating: 2. The allocation of resources for the implementation and management of the project is estimated for the German Technical Cooperation (TC) as sparingly appropriate. PTB omitted permanent presence of international experts on site and related logistics. A national (Mongolian) project assistant is working continuously on-site, relying on her own logistics. MASM indicates that the timing and duration of PTB consultancies have been good. The continuity of the project was affected by two changes at the level of the chairman of MASM and several changes in the executive positions of metrology and standardization. Additionally, there was a change of the PTB-project coordinator in the first quarter 2014. The short term experts of PTB were a guarantor of continuity.

Sustainability, rating: 3. Capacity building is assessed to be sustainable at the individual level in the electricity laboratory (4 persons) and partly in standardization (3-4 persons). At the organizational level, the electricity laboratory progressed: "Voltage" is managed following almost (90%) ISO / IEC 17025. The following areas are assessed as not sustainable: a) at the organizational level, the structural changes in the standardization process (procedures for participation of experts and interested stakeholders), b) the process of developing a modern QI-strategy within MASM and c) the mode of operation of MASM to be a service provider for private and state enterprises.

Causes and success factors for the observed results and change processes

Because of the context of high staff turnover on the side of the project partner MASM, a limited potential degree of 80% is estimated for all success factors. Recommendations on how the potential could be achieved for the individual success factors are listed below (recommendations).

Strategy, total: 80% of potentially 80%

The strategic direction of the project has been well chosen, and takes into account the national development strategy and the priorities of the government, and fits well into the overall portfolio of German development cooperation in Mongolia. The strategy to first build the necessary trust through small steps and to create awareness for a change was appropriate. The project has initiated important learning and change processes.

Cooperation, total: 60% of potentially 80%

The project included participatory planning with Mongolian partners. The continuity of personnel of PTB was felt by all interlocutors as very important. The flow of information and transparency on the part of PTB was considered by all to be very good. The experiences from the PTB-MASM-project in the mining sector (which is implemented parallel to the here assessed project) have shown that it makes sense to apply a multi-stakeholder approach. The cooperative relations between MASM and other partners in the sector can be improved. The project has worked closely with the EU projects "Support to the modernization of Mongolia's standardization system". The coordination with the GIZ's projects in the field of energy efficiency works well.

Steering structure, total: 60% (potentially 80%)

PTB's project management has deliberately avoided a fixed steering structure because of the high staff turnover in the project. This reasoning is understandable and practical. Nevertheless, from the outside, there are still tight steering mechanisms: The PTB-project coordinator, the PTB-Short term expert (iKZE) and the President of MASM, the latter of whom puts the proposals of his colleagues into force.

Processes, total: 50% (potentially 80%)

Until now, the core processes metrology and standardization have focused on MASM's internal processes. The core process QI-strategy was inward (organization and division of responsibilities) and outward (offer of MASM-services to stakeholders of the business and science). This process is currently stagnating. For successful implementation of the overall project, with an overall view of 6 or more years, it is urgent that the core process QI-strategy further advance. At present, it looks as if the above mentioned EU-project will tackle the development of the QI-strategy. However, the issue of the QI-strategy must remain in view of the PTB project coordination, so that the PTB-investments in the project generate impact and are sustainable.

3. Learning and innovation, total: 60% (potentially 80%)

Level PTB project management: The three management tools (project documentation, financial monitoring and monitoring forms) have each made specific contributions for the monitoring and control of the project. For impact-oriented project management on a day-to-day basis, however, the instrument "monitoring forms" contributed little. It documented that a number of activities and milestones in the core processes standardization and QI-strategy could not be implemented. Nevertheless, it indicated problems in these core processes.

Level capacity development among the project partners: In the core process metrology, the co-operation between colleagues from PTB and MASM is much appreciated. This is a good basis for learning and innovation. Reasons for this success are: a) the demand of MASM and the offer of PTB match; b) the "chemistry" between the colleagues is good; c) the project partner MASM "sees progress" in the form of equipment and training; d) MASM experts participate in international workshops, which is strengthening their motivation.

In the core process standardization, the cooperation between MASM and PTB is running less smoothly. What are the factors that make cooperation more difficult? The most important ones are: a) The demand of MASM and the offer of the PTB do not fit together in detail (MASM demands for substantial support for the adaptation of some 30 international standards versus the offer of PTB, which comprises training and consultancy based on 2 pilot-standardization processes); b) PTB suggests a procedure that does not correspond with MASM's procedures, i.e. many steps need special permission from the President of MASM; c) MASM's management identifies little progress; d) MASM and PTB have partly different

perspectives which concepts of workshops are more effective (i.e. workshops in Germany or in Mongolia).

4. Recommendations

The following recommendations 1-8 and 10-11 correspond to those that were presented and discussed in the debriefing of the evaluation on 22 April 2015. Recommendation 9 witnessed a substantive change: instead of completion of the core process QI-strategy in the next project, the strengthening of this process is recommended. This change evolved from the analysis of data after the field phase. Furthermore, recommendations 12-15 were inserted, which also developed from in-depth analysis after the field phase.

Recommendations to PTB, MASM and Ministry of Energy:

R1: Discuss and submit a joint project proposal to the German Ministry BMZ. In the following points, recommendations and suggestions for the project design are drafted.

R2: In metrology, activities should continue. Details should be discussed with the metrology experts from MASM and PTB.

R3: Discussion is needed for a common understanding in the project component "standardization". The different expectations of the project partners caused substantial delays in project implementation. Continuous dialogue about expected results and the definition of project success is recommended. External moderation of this process might be helpful.

Recommendations 4-8 include suggestions for the core process standardization for a further project. The different perspectives of PTB and MASM are combined.

R4: Continue to work with pilot standardization processes in the next project phase. By using the example of two international standards from the energy sector, for example, the international standard procedures for the introduction of standards into the national Mongolian context are honed.

R5: Consider the development of a glossary for technical vocabulary in the energy sector. This will enhance the quality of translations.

R6: Creation of a pool of translators (English-Mongolian) for IEC standards in the energy sector. This will enhance the quality of translations.

R7: Initiate discussion whether identical untranslated adoption of international standards is a feasible option for Mongolia. This discussion would address MASM's challenge of how to adopt and introduce a large number of international standards within the next years.

R8: PTB provides advice to MASM how to handle urgent demands for fast track adoption. This is another recommendation for the discussion about the challenge of MASM mentioned in recommendation 7.

R9: Strengthen the core process QI-strategy in the next project. For the development of an effective and useful quality infrastructure in Mongolia, the development of a QI-strategy by MASM is very important. Although this core process came to a halt in the first project, it should be continued with regard to impact and sustainability. The content of the core process should be planned and implemented in close coordination with the EU project. If the EU project can enhance the development of the QI-strategy, it is very good. Otherwise, there is scope for the PTB project to be more active here. Although the results of the first project were sobering, this core process should not be removed from the follow-up project.

R10: Discuss and ensure effective communication channels in the new project.

The President of MASM should be better integrated into communication. This could be done inter alia through more direct communication with PTB's national project assistant. Furthermore, in addition to the heads of metrology and standardization, relevant colleagues from the electricity laboratory and standardization (Technical Regulation Department) should attend important meetings.

Recommendations to the PTB-project coordination

R11: Continue to work with a local project assistant. The support of the local PTB assistant was perceived as very helpful by the project partners. It should be ensured that the project assistant permanently does not take over too many activities that should be processed by MASM.

R12: Verification of the necessary level of detail of the results-based monitoring tool. It is important to have such a tool, but check for the next project which data was helpful and what might be added to support management of the project.

Recommendation to the PTB-Q5-Management

R13: Review the concept of QI-projects of PTB, including how an appropriate design of organizational development is systematically provided and implemented. The project, which was designed for capacity development at the level of individuals and organizational levels, has worked mainly at the level of individuals. To what extent is this symptomatic of PTB projects working in challenging contexts? What experiences of PTB (in other countries) can be used in the further course of the project?

Recommendation to the PTB-evaluation desk

R14: Review whether more participation and involvement of partner organizations in evaluations might foster learning. Currently, the evaluation is a unique PTB-evaluation. Greater participation of the partners might be implemented through local co-evaluators, joint development of evaluation questions (partner and PTB) and a neutral letterhead on evaluation documents (e.g. avoid the PTB letterhead).

Recommendation to MASM

R15: Provide information on the website of MASM about specific international standards (e.g. IEC standards) that are in the hands of MASM and which might be purchased by Mongolian actors (business, science, etc.). During the evaluation, representatives from industry and academia were surveyed. They pointed out that it would be very useful for them if they had more information concerning available international standards. MASM might sell these standards at reasonable fees.



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