Thematic Evaluation Report

UNIDO activities in the area of Standards, Metrology, Testing and Quality (SMTQ)

Co-funded by the
Swiss State Secretariat for Economic Affairs (SECO)

UNITED NATIONS
INDUSTRIAL DEVELOPMENT ORGANIZATION

UNIDO EVALUATION GROUP

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Abbreviations and acronyms

ASEAN	Association of Southeast Asian Nations
BQSP	Bangladesh Quality Support Programme
BSTI	Bangladesh Standards and Testing Institute
CAB	Consumers Association of Bangladesh
CGPRS	Comprehensive Growth and Poverty Reduction Strategy, Vietnam
CIS	Commonwealth of Independent States (former Soviet Union)
CP	Cleaner Production
CTA	Chief Technical Advisor
DAC	Development Assistance Committee
DG SANCO	Directorate General for Health and Consumer Affairs
EC	European Commission
EU	European Union
FCS	Forest Stewardship Council
FTDA	Food Testing and Drug Agency, Tanzania
GAP	Good Agricultural Practices
GDP	Gross Domestic Product
GLOBALGAP	Global Partnership for Good Agricultural Practices
GOSL	Government of Sri Lanka
HACCP	Hazard Analysis and Critical Control Point
HRM	Human Resources Management
IAF	International Accreditation Forum
IEC	International Electro-technical Commission
IFC	International Finance Corporation
IPPC	International Plant Protection Convention
ISO	International Standards Organization
ITC	International Trade Centre
KSF	Key Success Factor
LDC	Least Developed Country
MPDF	Mekong Private Development Fund
MRA	Mutual Recognition Agreement
NEX	National Execution
NGO	Non Government Organization
NORAD	Norwegian Agency for Development Cooperation
NORFUND	The Norwegian Development Fund for Developing Countries
NPC	National Project Coordinator
NQI	National Quality Infrastructure

NQS	National Quality System
OECD	Organization for Economic Cooperation and Development
OIE	Organization for Animal Health
OIML	International Organization of Legal Metrology
OVI	Objectively Verifiable Indicator
PCM	Project Cycle Management
PMU	Project Management Unit
PPP	Public-Private-Partnership
QMS	Quality Management System
RBM	Results Based Management
REACH	Registration, Evaluation and Authorization of Chemicals
RoHS	Restriction of Hazardous Substances Directive
SAARC	South Asian Association for Regional Cooperation
SECO	Swiss State Secretariat for Economic Affairs
SER	Self Evaluation Report
SIFEM	Swiss Investment Fund for Emerging Markets
SMART	Specific, Measurable, Acceptable, Relevant and Time-bound
SMEs	Small and Medium Enterprises
SMTQ	Standards, Metrology, Testing and Quality Management
SPS	Sanitary and Phytosanitary
SR	Social Responsibility
STAMEQ	General Directorate for Standards, Metrology and Quality, Vietnam
STDF	Standards and Trade Development Facility
TA	Technical Advisors
TBT	Technical Barriers to Trade
TCB	Trade Capacity Building
ToRs	Terms of Reference
TSSP	Trade Sector Support Programme, Ghana
QMS	Quality Management Systems
UEMOA	Union Economique et Monétaire Ouest Africaine
UN	United Nations
UNCTAD	United Nations Conference on Trade and Development
UNDP	United Nations Development Programme
UNIDO	United Nations Industrial Development Organization
UR	UNIDO Resident Representative
WEEE	Waste Electrical and Electronic Equipment Directive
WP	Work Package (of the Thematic Evaluation)
WTO	World Trade Organization

Glossary of evaluation related terms

Term	Definition
Conclusions	Conclusions point out the factors of success and failure of the evaluated intervention, with special attention paid to the intended and unintended results and impacts, and more generally to any other strength or weakness. A conclusion draws on data collection and analyses undertaken, through a transparent chain of arguments.
Effectiveness	The extent to which the development intervention's objectives were achieved, or are expected to be achieved, taking into account their relative importance.
Efficiency	A measure of how economically resources/inputs (funds, expertise, time, etc.) are converted to results.
Impacts	Positive and negative, primary and secondary long-term effects produced by a development intervention, directly or indirectly, intended or unintended.
Indicator	Quantitative or qualitative factor or variable that provides a simple and reliable means to measure achievement, to reflect the changes connected to an intervention, or to help assess the performance of a development actor.
Institutional development impact	The extent to which an intervention improves or weakens the ability of a country or region to make more efficient, equitable, and sustainable use of its human, financial, and natural resources, for example through: (a) better definition, stability, transparency, enforceability and predictability of institutional arrangements and/or (b) better alignment of the mission and capacity of an organization with its mandate, which derives from these institutional arrangements. Such impacts can include intended and unintended effects of an action.
Lessons learned	Generalizations based on evaluation experiences with projects, programs, or policies that abstract from the specific circumstances to broader situations. Frequently, lessons highlight strengths or weaknesses in preparation, design, and implementation that affect performance, outcome, and impact.
Logframe	Management tool used to improve the design of interventions, most often at the project level. It involves identifying strategic elements (inputs, outputs, outcomes, impact) and their causal relationships, indicators, and the assumptions or risks that may influence success and failure. It thus facilitates planning, execution and evaluation of a development intervention. Related term: results based management.
Outcome	The likely or achieved short-term and medium-term effects of an intervention's outputs. Related terms: result, outputs, impacts, effect.

Outputs	The products, capital goods and services which result from a development intervention; may also include changes resulting from the intervention which are relevant to the achievement of outcomes.
Recommendations	Proposals aimed at enhancing the effectiveness, quality, or efficiency of a development intervention; at redesigning the objectives; and/or at the reallocation of resources. Recommendations should be linked to conclusions.
Relevance	The extent to which the objectives of a development intervention are consistent with beneficiaries' requirements, country needs, global priorities and partners' and donors' policies. Note: Retrospectively, the question of relevance often becomes a question as to whether the objectives of an intervention or its design are still appropriate given changed circumstances.
Results	The output, outcome or impact (intended or unintended, positive and/or negative) of a development intervention. Related terms: outcome, effect, impacts.
Sustainability	The continuation of benefits from a development intervention after major development assistance has been completed. The probability of continued long term benefits. The resilience to risk of the net benefit flows over time.

Executive summary

1. Introduction

This Thematic Evaluation is based on an analysis of recent evaluations of UNIDO interventions in the area of Standards, Metrology, Testing and Quality (SMTQ).

It attempts to draw together lessons learned within this 'theme' by examining specific aspects, themes and processes across a range of UNIDO projects in order to benefit from accumulated experience and to provide recommendations for future design, implementation, monitoring and evaluation of UNIDO Trade Capacity Building interventions in the area of SMTQ.

The work was funded jointly by UNIDO and the Swiss State Secretariat for Economic Affairs (SECO) and completed between September 2008 and December 2009 by a team of two external international experts (Mr. Ben Bennett and Mr. Daniel Keller) and the senior evaluation officer of the UNIDO Evaluation Group (Mr. Peter Loewe).

The evaluations used as an evidence base covered 15 countries (Bangladesh, Côte d'Ivoire, Lebanon, Cambodia, Laos, Vietnam, Tanzania, Mozambique, Ghana, Senegal, Togo, Nepal, Sri Lanka, Maldives, and Bhutan).

2. Background and method

Increased trade as a result of more open markets allied to emerging global value chains is seen as a possible solution to reduce poverty. The Trade Capacity Building (TCB) Branch of UNIDO addresses this issue by technical assistance and capacity building aiming at the development of internationally competitive businesses. The methods and means that are applied to addressing this problem are collectively referred to as the "TCB Approach". Its key elements include developing competitive manufacturing capability, ensuring conformity with market requirements and enhancing connectivity to markets, also referred as the "Three Cs".

This thematic evaluation concentrates on the "conformity" aspect of the TCB Approach, which can also be described as developing National Quality Systems that enable trade through strengthening four key domains: standards, metrology, testing and quality management (SMTQ). The scale and complexity of this area has grown dramatically in the past decade. New market requirements are constantly emerging as are new modalities for promoting trade, such as regional collaboration and trade agreements. There is an important role for the state in providing and supporting delivery of SMTQ services as public goods, but new service providers are emerging.

The thematic evaluation was based on an analysis of selected evaluations of SMTQ projects that were carried out between 2005 and 2009. The sample was

chosen to include different project types in terms of size, thematic areas and development context of countries and regions covered. New evaluations were added to the sample ad hoc.

The average duration of projects included in the evidence base was 3 - 4 years, with an average budget of USD 3.8 million. Some of the findings of the earlier evaluations (UEMOA, Mekong Region) were updated through short field missions in order to capture recent changes and complement missing information.

The core method applied to the thematic evaluation was to generate a list of Key Success Factors (KSFs) based on a first set of existing evaluation reports and then to validate these by testing them on further evaluations.

KSFs are defined as:

- Conditions for developing and implementing successful projects;
- Elements of best practice that are emerging from past experience;
- A means to identify and focus upon particular 'hot-spots' or 'bottle-necks' within SMTQ; and,
- Benchmarks or markers against which future SMTQ project evaluations might assess the direction in which this type of project is moving.

A total of 27 KSFs relating to six thematic areas were identified: (a) project tailored towards country context, (b) long-term planning, (c) efficient implementation mechanism and management, (d) user-oriented and systemic approach to NQS development (e) effective capacity building and (f) good project governance and ownership.

Main limitations of this thematic evaluation included: (a) using existing evaluations as the evidence base means that many of the findings are past rather than current practice; (b) the sample used may not perfectly represent all existing TCB projects in SMTQ; (c) the method of 'up-dating' older evaluations to level off the findings may not have the depth or authority of a full evaluation as time was limited and the evaluation team small (in many cases only one person working alone); (d) the sample taken is far from homogenous: projects cover many different areas of SMTQ and countries in different stages of development; (e) the absence of clear impact pathways and relationships in this complicated technical area means that clearly demonstrating cause and effect is difficult and strongly connecting evidence to recommendations is challenging and (f) project selection, formulation, design and implementation are often driven by factors beyond the direct control of the UNIDO TCB branch, for example donors' funding cycles, budgets and strategies.

3. Key conclusions

Overall, we found that, in the dynamic realm of SMTQ, where standards and compliance criteria can change quickly, UNIDO response to urgent needs such

as loss of market access due to rejections is often seen as a key advantage over other providers of technical assistance.

The broad range of technical expertise available within UNIDO allows technically complex projects to be prepared that might otherwise require a range of specialist skills from different sources. This internal capacity means that UNIDO is able to design projects largely in-house, at short notice and quickly. UNIDO main strength seems to be its ability to provide technical expertise. With a few minor exceptions, partners were highly satisfied with the quality of the advice they received. The evaluation finds that the range of TCB tools is appropriate and contributes adequately toward the achievement of project objectives.

The thematic findings drawn from the analysis of the evaluations and development of KSFs have been collated into nine conclusion 'areas':

- Good Governance of NQS: The evaluation confirmed that an active and participatory governance structure and stakeholders' voice in national quality systems are conducive to the development of NQS. Strengthening participatory good governance of NQSs is an area of great importance for future SMTQ interventions.
- Strong private sector involvement supports NQS development: The private sector has a key role to play on both demand and supply side of SMTQ. On the demand side, engagement with private firms, in particular SMEs that are more difficult to reach, throughout the project cycle is needed. On the supply side, strengthening private sector SMTQ service providers where available should not be omitted.
- Needs driven and long-term project preparation, setting realistic targets: An in-depth analysis of demand and supply of SMTQ services in the country/region before starting the intervention avoids overlaps and duplications in NQS development. In order to achieve key objectives of the TCB approach, identifying needs of users of SMTQ services as opposed to only perceived needs of SMTQ service suppliers is crucial. Projects should be designed based on a long-term NQS development plan rather than just with the scope of one project phase in mind. SMTQ projects are often found to be over-ambitious. This is commonly caused by unrealistic donor expectations and funding windows that are shorter than the ability of counterparts to absorb the necessary development. In many cases, budgets were not appropriate in relations to the targets set.
- There is significant room for improvement in using standard project management tools, such as UNIDO Technical Cooperation Guidelines and principles of result-based management. The lack of properly applying planning and monitoring tools was at the core of a number of problems encountered during implementation (e.g. unclear results chains; assumptions not defined, risks not identified and assessed). The lack of baseline data, performance indicators combined with an activity- rather than result-based monitoring and reporting made an assessment of results difficult.

- Sustainable capacity building in NQS: Selecting counterpart institutions that are directly responsible for the NQS-elements covered by the project, supporting the establishment of a conducive policy framework, and institutional strengthening contribute to increasing perspectives of effectiveness and sustainability of capacity building. Providing long-term support to institutional strengthening and policy development *together with* technical assistance in the area of SMTQ are essentials for sustainability.
- Regional and South-South approaches to SMTQ development: Transnational approaches were appropriately used where a formal regional cooperation framework to "link into" was already in place. UNIDO rightly combined the strengthening of both regional and national SMTQ institutions in parallel, recognizing that a minimum national quality infrastructure is required to make a regional SMTQ function well. Presence of a lead country with rapidly advancing NQS within a regional approach seems to facilitate regional cooperation, both formal and informal. UNIDO successfully achieved economies of learning by sharing experience among regional countries and economies of scale by coordinating input. In one case economies of scope and scale were partially offset by complex parallel management structures (regional, national) and difficulties to tailor support to diverging needs of individual countries. Between Sri Lanka and several other South Asian countries UNIDO initiated successful cases of South-South cooperation.
- Project management and implementation**:** Delegation of day-to-day management to the field worked best. This requires the selection of a local coordinator or CTA with strong leadership skills rather than only technical specialists. Forms of joint-management of projects with clearly defined and matching competences, accountabilities and responsibilities were most effective. In contrast, a centralized project management approach from headquarters lead to delays and a lack of counterparts' ownership and motivation. UNIDO project support services are considered as a significant strength, but not in all projects.
- Project governance structure: Active and diverse steering committees that were well informed, including about financial details of implementation, added significant value. Clear terms of reference and separation of key functions such as "stakeholder involvement", strategic management and day-to-day management were found to be important elements of good project governance.
- Internal project support services: UNIDO has developed a unique and highly valuable stock of expertise in SMTQ project delivery. The evaluators noted, however, significant differences in how UNIDO internal services (notably procurement, accounting and human resource management) were provided. HRM was not systematically involved in selecting long-term contractual staff. Major challenges arose where UNIDO used the services of UNDP.

Overall assessment against DAC evaluation criteria:

- Relevance: all SMTQ projects covered by this evaluation were highly relevant.
- Efficiency: SMTQ projects require expensive resources and long-term commitment for success. Projects seem to be a relatively efficient means to deliver SMTQ activities. Most evaluations concluded that efficiency gains could be made through decentralisation of responsibility.
- Effectiveness: few projects evaluated had achieved their formal outcomes within the initially planned time frame. Setting Overambitious targets was considered the main cause.
- Impact: in almost all cases impact is unknown because the means to measure it has not been put in place. Moreover, evaluating SMTQ impact is methodologically challenging, as demonstrated by the evaluation in Sri Lanka.
- Sustainability: only projects in relatively developed economies have achieved sustainability to date. In some countries a degree of dependence on UNIDO support to SMTQ may have emerged.

4. Key recommendations

As a result of the thematic evaluation, analysis of Key Success Factors (KSFs) and conclusions drawn from this analysis, nine 'baskets' of recommendations are offered with 56 individual suggestions. These are summarised as follows:

- UNIDO should develop a structured and in-depth approach for SMTQ project preparation, including an assessment of demand and supply of SMTQ services and the identification of needs of SMTQ service users. Processes for project preparation should be clearly defined and consistently applied across the entire SMTQ portfolio.
- UNIDO should advocate a more long-term approach of SMTQ among donors and build an understanding that: (a) SMTQ requires a comprehensive approach and long-term efforts; (b) alignment with country needs and coordination with other donors enhances effectiveness; (c) too much pressure for timely disbursements of funds without taking into account (unexpected) absorption problems reduces efficiency; (d) attempts to include elements of "tied aid" (e.g. use of expertise from the respective donor country) may blur project objectives and strategies. Increasing the sheer number and volume of technical assistance projects should not be UNIDO top priority, but the Organization should rigorously apply its own priority planning and quality criteria, which may mean occasionally "saying no" to donors.
- Building on its considerable comparative advantage, UNIDO should integrate strengthening of multi-layered governance structures of National Quality Systems into its programmes. Such structures should promote public-private dialogue, ensure stakeholder involvement and, where necessary, contribute to managing conflict of interests. National Quality Forums involving

Government, public and private SMTQ service providers, industry associations and consumers could be a way to improve accountability and demand-orientation.

- UNIDO should further develop its recent move towards a stronger involvement of the private sector in strengthening both demand and supply sides of SMTQ.
- Methodological tools needed for a systematic and sustainable strengthening of National Quality Systems should be consistently applied across the programme. At the strategic country level, support to establishing "national master plans for SMTQ development" could become a standard component in many SMTQ projects. This new product would valorise UNIDO thematic leadership and competitive advantage as a neutral specialized UN Agency. At the level of individual quality service providers, UNIDO should shift towards a more comprehensive and more long-term institutional strengthening approach which should include an exit strategy. Continue building demand for quality services by capitalizing on the positive experience in countries where this has been successfully done.
- UNIDO should further develop its leadership in stimulating regional and South-to-South cooperation (including encouraging cooperation between SMTQ organizations, build on success of international platforms, strengthening existing regional structures, linking several national interventions together in order to achieve economies of scale and scope).
- UNIDO should strengthen its project governance and management structures, according to the following principles: increasing the roles of steering committees for strategic management while differentiating between strategic decision making and stakeholder involvement, decentralizing operational decision making power to the project, consistently apply project management tools (PCM) and RBM principles in line with UNIDO TC Guidelines. UNIDO should also gradually increase the role of local counterparts in project implementation in order to increase ownership and sustainability.
- Enhance coordination between project management and UNIDO internal services. Day to day operational challenges between UNIDO "substantive branches" and "service branches" should be overcome through better/systematic integration of service branches into the project cycle at an earlier stage. Key areas of possible improvements within UNIDO service branches include: For HRM: consistently apply standard criteria for the selection of project staff including non-technical aspects, such as management skills and apply proper fees levels that are in line with market rates. A systematic assessment of candidates for key positions rater than only an analysis of CVs and interviews would increase chances of identifying the right type of profile. For procurement: Local conditions such as availability of training and after-sales service should be systematically included into technical specifications of equipment.

I

Introduction

This report looks at a range of evaluations of United Nations Industrial Development Organization (UNIDO) interventions and projects in the area of Standards, Metrology, Testing and Quality (SMTQ) and attempts to draw together the results of evaluation within this 'theme'. The SMTQ Thematic Evaluation responds to a request from the UNIDO Executive Board and is part of the work program of the UNIDO Evaluation Group for 2008 – 2009. The work was financed jointly by UNIDO and the Swiss State Secretariat for Economic Affairs (SECO). The terms of reference for the thematic evaluation can be found at Annex I[1].

The work was done between September 2008 and December 2009 and consisted of a range of sixteen evaluations in fifteen countries selected from a much wider range of UNIDO SMTQ work. In addition to individual evaluations and evaluation updates, several workshops and presentations of interim findings were conducted as well as interviews. Countries visited and evaluations conducted during the course of this thematic evaluation include: Bangladesh (x2), Cote d'Ivoire, Lebanon, Cambodia, Laos, Vietnam, Tanzania, Mozambique, Ghana, Senegal, Togo, Nepal, Sri Lanka, Maldives, and Bhutan. A chronology of key events is provided at Annex II.

The Thematic Evaluation of SMTQ aims to examine specific aspects, themes and processes across a range of United Nations Industrial Development Organization (UNIDO) projects in order to benefit from accumulated experience. Through the identification of good practices in delivering SMTQ technical assistance UNIDO thematic leadership in this area should be consolidated. The results of thematic evaluation may feed into policy, operations, processes and practices across UNIDO and among its many partners.

The expected outcomes of this evaluation are recommendations and lessons that can be used for design, implementation and monitoring of UNIDO Trade Capacity Building interventions. Its findings and recommendations should provide UNIDO management and donors with an understanding of UNIDO leadership, visibility and added value within this thematic context.

[1] Note that Work Package III on UNIDO Thematic Leadership is reported separately

The evaluation has focussed on answering:

- What worked (or did not work) in the implementation of the TCB Approach?
- What common lesson can be learned from SMTQ project experience?
- What can be improved in the future?

The evaluation team consisted of both internal UNIDO and external independent evaluators as follows:

- Ben Bennett, Principal Economist, Enterprise, Trade and Food Marketing Group, Natural Resources Institute, University of Greenwich; Team Leader, appointed by the Swiss State Secretariat for Economic Affairs (SECO);
- Peter Loewe, Senior Evaluation Officer, UNIDO Evaluation Group, responsible for the assessment of thematic leadership and providing methodological guidance;
- Daniel Keller, Director of Swiss Consulting Co. Ltd. Hanoi, Vietnam, International Evaluation Expert, team member, appointed by UNIDO.

This report is divided into five sections. Firstly, we considered the SMTQ intervention logic and the approach adopted by UNIDO to address needs in this area. The method adopted in the thematic evaluation is explained in the second section, focussing particularly on the way that the evidence base of individual evaluations is linked to the findings and recommendations that come later. In Section three the SMTQ system and interventions are mapped. This includes describing the technical areas of intervention in each country/project and comparing these with the range of national quality infrastructure that makes up a notional national quality system. The fourth section introduces the concept of Key Success Factors (KSFs) as a way of finding common areas among the various evaluations where best practice occurs or improvement could be made. In this chapter the detailed evidence base of KSFs is summarised and the findings analysed against criteria such as their location in the project cycle, the evaluation criteria of the Development Assistance Committee (DAC) of the Organization for Economic Cooperation and Development (OECD) and the Paris Declaration on Aid Effectiveness. In Chapters five and six we summarise the findings of the thematic evaluation and offer some recommendations for possible improvements.

During the course of this evaluation a substantial evidence base was developed including many examples and cases. Whilst summarised here, the detailed information is provided in a second volume.

II

Background and method

2.1 Background

There is an emerging consensus that trade is a central driver of economic growth and that economic growth has a positive impact on poverty alleviation (Rodik 2001; Winters, McCulloch et al. 2002). New trade rules and market access conditions negotiated under the auspices of the World Trade Organization (WTO) have driven the further development of global value chains (Gereffi 2000). With weak domestic markets, developing and less developed economies are highly dependent upon trade for economic growth. At the same time, countries are faced with obligations under international agreements aimed at creating a transparent and level playing field for trade. The creation of the WTO Technical Barriers to Trade (TBT) and Application of Sanitary and Phytosanitary Measures (SPS) Agreements binding to all members placed substantial additional burdens on member states that have to comply with these legal obligations. Much of the architecture of formal tariff barriers has been reduced, but many non-tariff barriers have now come to the fore. Many of these fall into the broad realm of "standards".

Trade liberalisation has to some extent polarised growth with not all countries able to benefit from competitive advantage coupled with improved market access. UNIDO suggest three reasons for this (Kaeser and Goonatilake undated): inadequate financial structures to support private sector business development, absence of good governance that is supportive of capacity for competitive international business development and the knowledge gap that inhibits productive capacity for competitive international business development. The TCB Branch of UNIDO addresses its efforts toward the third of these elements constraining the development of industrial exports. The key element of the "TCB Approach" is "the diffusion of knowledge, information skills and technologies across economic agents and institutions to ensure that export growth is diversified and sustainable, and contributes to the creation of an equitable society" (UNIDO undated). The means to achieve this is through developing competitive manufacturing capability, developing and promoting conformity with market requirements and enhancing connectivity to market (the Three Cs

Approach). Examples of elements of the TCB three Cs approach are shown in Table 1.

Within the wider domain of the TCB Approach, this thematic evaluation focuses on the specific areas of Standards, Metrology, Testing and Quality Management (SMTQ) and the complicated inter-relationship between those elements necessary for countries to enter trade and the domestic resources endowments available to meet the demands of international markets. On the one hand this involves developing the infrastructure necessary to enable trade to occur and on the other it consists of responding to and fulfilling the requirements of markets at different levels from states to individual consumers. In this thematic evaluation the term "National Quality System" (NQS) is used to refer to all those elements that make up a functional quality infrastructure.

Table 1: examples of elements of the TCB Approach and the Three C's

	Competitiveness	**Conformity**	**Connectivity**
Policy	Sectoral competitiveness analysis Trade Policy Development Consumer protection	Harmonisation of legal and regulatory framework Accreditation, certification, inspection and conformity mark schemes	Preparation for WTO accession Increasing negotiating capacity Intellectual property management capacity
Institutions	Advice provision on Compliance Cluster Development	Upgrading laboratories International traceability of measurement Enquiry points for TBT/SPS Establishment of certification and accreditation bodies	Notification body development Registration and documentation Inspection Customs clearance Market intelligence
Enterprise	Matching investors to supply Demonstrations and pilot projects		

Source: adapted from (UNIDO 2006)

The key elements of an NQS usually include a national standards body whose role is to meet national needs for standardization. To demonstrate that a produce, process, system, person or body have fulfilled the requirement of a

standard, conformity assessment[2] is needed, which involves inspection, testing and certification. Bodies testing and certifying products and systems want to demonstrate their competence and as a result seek accreditation. Accreditation bodies demonstrate their competence and credibility through peer review. Underpinning all this is the assurance that all the measurements used to conform to standards are accurate, reliable and traceable. This assurance is provided by having a system of metrology available to allow parameters like time, weight, volume, temperature and pressure to be measured accurately and consistently for this to be proven scientifically[3].

An important decision for developing countries (and for UNIDO and its donors) is which elements of this NQS to invest in. The mix of infrastructure needs to be affordable, appropriate and sustainable. The sequence of NQS development is also important as the rate of successful adoption of all the various elements depends to a great degree upon the ability of development partners to absorb technical assistance for developing new and complex capacities. The breadth, complexity and ambition of the projects evaluated here reflect many of the difficult decisions that have to be made when faced by limited development resources and urgent need.

By entering into trade and complying with the provisions of the WTO TBT and SPS Agreements as well as private standards, countries start to enter a complex realm of international agreements and accords relating to standard setting. In joining these international agreements, countries move from simply accepting standards to being engaged in setting international policy for standards. This comes with both rights and obligations for members. Moving beyond competitiveness and conformity, TCB plays an increasing role in this realm of making countries aware of international standards and connecting countries and stakeholders into the international realm of SMTQ, its institutions and processes.

There is a developing economic case supporting investment in SMTQ as a means to promote growth (see for example Birch 2003 on legal metrology), but UNIDO is faced by numerous challenges in this regard. The relationship between trade and developmental impact, particularly for the poor and vulnerable, the so-called trade-poverty nexus, is not clear cut. The pathways for impact can be identified, but are hard to measure.

Box 1: Rapid growth of textile export failed to significantly reduce poverty in Madagascar

Export-led growth has increased inequality between poor and non-poor people, between urban and rural areas, and between skilled and unskilled workers. Skilled workers have experienced rapidly increasing wages, while rural areas have been cut off from the effects of the growing textiles and apparel sector. (Nicita 2006).

[2] As defined in ISO/IEC (2004). Guide 2: Standards and Related Activities - General vocabulary. Geneva, International Organization for Standards.

[3] This broad description of SMTQ is drawn largely from Bonner, P., A. Inklaar, et al. (2008). Fast Forward: National Standards Bodies in Developing Countries. Geneva, International Organization for Standardization and the United Nations Industrial Development Organization

There is a heated political and academic debate, whether and under which conditions increased trade leads to reducing poverty (see Box 1).

Many aspects of National Quality Systems are considered to be public goods. There is a common understanding that legal metrology, accreditation, testing services needed to ensure consumer health and safety, and border control are public functions (see Box 2 for an example of arguments supporting metrology as a public good). In developing countries, many SMTQ services that in developed economies would be typically provided by private suppliers (parts of industrial metrology, testing services going beyond basic requirements and QMS certification) may not be sufficiently remunerative for private investors. In countries where the domestic economy is small or nascent, SMTQ investment decisions are difficult (Deeb 2006). With very scarce public resources it is hard for SMTQ bodies to make a sufficient argument to gain the necessary support of the government purse. The balance between what SMTQ services are provided as public goods and which can be safely sustained by private investment is an important and challenging element to many aspects of support to this area.

Box 2: Three reasons why it may be important to have a policy towards measurement and metrology

First, the importance of network effects to users of the measurement infrastructure; second, the need to ensure that metrology remains open to all users and is not monopolised; and third, when there is a special need for impartiality and integrity in measurements.

(Swann 2009:i).

Activities in the realm of TCB have increased dramatically over the past decade in response to increased market access, more trade and, probably more trade barriers. Key elements of the world SMTQ infrastructure that have facilitated trade are relatively new. For example, the Global Metrology Agreement is only 10 years old; the international agreement on accrediting laboratories is 9 years old. Important internationally recognised and accepted standards for trade in key sectors are still relatively young (e.g. the ISO 22000 food standard is only five years old). It should be said that the challenges faced by developing countries in responding to this highly dynamic and changing domain are also faced by UNIDO in its assigned objective of assisting countries and firms to grow exports.

Since 2002, UNIDO support in the area of TCB has increased from USD 7.2 million to almost USD100 million per annum projected for 2010. Implementation modalities of UNIDO projects varied substantially, however with some important commonalities. The model commonly used is that UNIDO receives funds from different donors for specific projects/activities as desired by the beneficiary country and the respective donor and approved by the UNIDO Board. This so called “agency” mode of execution means that UNIDO is contracted to perform all the tasks directed in the project agreement. By contrast, the United Nations Development Programme (UNDP) started adopting the “national execution” mode

of implementation, although typically for technically less demanding interventions than those required for the strengthening of SMTQ. Increasingly, key European donors channel their funding through multi-donor trust funds that are managed by recipient governments or even through budget support. Examples for this are many sector wide programmes in Africa. This change responds to commitments made under the Paris Declaration on Aid Effectiveness (OECD 2005b), which requires signatories to move towards greater ownership of aid by development partners. Recent evaluations of the implementation of the Paris Declaration suggests that implementation is so far rather patchy and that developmental context is the key factor that defines whether national execution is possible and advisable (Wood, Kabell et al. 2008). Because none of the projects included in the sample of this thematic evaluation used the national execution mode, a comparison of agency execution with other forms of implementation modalities was not possible.

Nevertheless, the way agency execution was applied across the project portfolio in practice varied substantially. Influenced by the drive towards "One UN" implementation, UNIDO seems to have shifted towards more partner-led project planning and implementation within the existing agency execution mode.[4]

The domain of TCB has not been static during the period of this thematic evaluation of SMTQ. The evaluators note for example efforts to identify good practice in SPS technical cooperation sponsored by the Standards and Trade Development Facility (STDF) of the WTO and the Organization for Economic Co-operation and Development (OECD) which particularly focussed on aligning projects to the Paris Principles on Aid Effectiveness (WTO 2008). The evaluation team was also provided access to on-going efforts to develop a SMTQ manual (Kellermann 2009).

2.2 Thematic evaluation method

This section explains the method used to undertake the thematic evaluation. This includes the way that the sample of evaluations for analysis was selected, the structure of the evaluation process, how the central methodological tool of KSFs was derived and how these are defined and how they are grouped or clustered for further analysis against common project cycle and evaluation criteria.

[4] *"UNIDO has expressed full support for national execution and has taken a conscious decision to adopt HACT in the "Delivering as One" pilot countries, whenever the nature of the voluntary funding allows it and in accordance with policies established by its policymaking organs. In this context, UNIDO will give priority to operational activities funded by the "One Fund"*. UNIDO (2008)

2.2.1 Sample selection

This thematic evaluation applies a multi-level sampling and testing method, building upon a number of existing and new project evaluations carried out between 2005 and 2009 at national or regional levels (see table 2). From the available universe of possible UNIDO SMTQ evaluations a smaller sample was taken corresponding to the three specific characteristics listed below. The reasons for selecting these characteristics were both practical (insufficient funds or time available to look at every project) and pragmatic (some evaluations were included because their programmed evaluation fitted within the time frame of the thematic evaluation).

The characteristics used to select the final sample of 15 country/project[5] evaluations included:

1. Evaluations that were recently completed or which could quickly be revised and updated to make the sample as recent and comparable as possible.

   In order to ensure that the lessons drawn are up to date and market relevant, only evaluations conducted within the last 4 years were used. In some cases, such as the Mekong Regional Project, where evaluations fell towards the earlier bracket of the criteria, a member of the evaluation team re-visited the country/project to ensure that the findings were up to date and fully relevant.

2. Evaluations covering projects implemented in countries with different development contexts

   UNIDO is mandated to work in all of its 173 member states; however, with a focus on the poorest of these[6]. Therefore, it was decided to limit the scope of the evaluation to Least Developed and Developing Countries only.

3. Different modes and scope of co-operation

   During the initial scoping of possible UNIDO SMTQ projects that might be included in the thematic evaluation it was noted that UNIDO adopts a range of different modes and scopes of cooperation (e.g. stand alone projects, regional approaches, comprehensive interventions, projects only covering certain aspects of SMTQ, etc.). It was decided that where possible for comparative purposes several different modes and scopes would be included.

A total of 15 countries and nine SMTQ projects were identified (see Table 2).

[5] Sixteen countries/projects refer to the number of individual countries and projects included in the evaluation study. In some cases the evaluations referred to projects covering several countries within a regional context. In two cases (Bangladesh, Vietnam) there were two evaluations of different projects in the same country. For the sake of consistency, we will refer to sixteen countries/projects evaluated in this report.

[6] See http://www.unido.org/index.php?id=7851

2.2.2 The evidence base

As explained above, a sample of 15 countries and nine evaluations was drawn from the UNIDO projects available. Table 2 presents the projects and evaluations that were used and provides some summary information about them. All figures in brackets [ ] in the text below refer to this table.

Table 2: Projects covered – the evidence base

No.	Country	Donor	Start date	Proposed end date (at time of evaluation)	Evaluation date (date of update if applicable)	Duration up to Evaluation (months)	Planned duration at time of evaluation (months)	Funds (USD)
1	Bangladesh	EU	08/05	12/09	02/08	30	52	9,960,000
2	UEMOA Region	EU	07/07	07/10	07/09	30	36	8,000,000
2a	- Cote d'Ivoire							N.A.
2b	- Senegal							N.A.
2c	- Togo							N.A.
3	Ghana	SECO	03/07	03/10	08/09	30	36	2,417,000
4	Lebanon	SECO	03/07	03/10	10/09	32	36	1,946,903
5	Mekong Region	NORAD	06/06	12/08	03/09	33	42	1,500,000
5a	- Cambodia							
5b	- Laos							
5c	- Vietnam	SECO	05/04	06/07	06/07	36	36	985,000
6	Mozambique	SECO	03/06	03/09	08/08	29	36	2,227,795
7	SAARC region[a]	NORAD	09/07	09/10	03/09	18	36	2,516,000
7a	- Bangladesh							450,364
7b	- Bhutan							641,580
7c	- Maldives							524,586
7d	- Nepal							547,230
8	Sri Lanka[b]	NORAD	1999[c]	2007	2009			2,752,575
9	Tanzania	SECO	01/06	12/08	09/08	18	24	2,200,000

Notes:

a. Euro funds converted to USD at Euro = USD 1.258 at date of evaluation (March 2009). Note that the total is not the sum of the country funds due to the "Coordination" budget.

b. This consisted of six separate projects of different sizes evaluated collectively for impact in 2009.

c. This is the end date of the first project included in the impact evaluation of Sri Lanka.

For each project/country a Country Summary Sheet was developed which provides a digest of the important points from the evaluation and details of the project itself. This includes the project title, duration, budget, key partners (donors and collaborators), location, country background (e.g. development status), the key elements of the project logic, the main approaches applied (e.g., building infrastructure, capacity building etc), outputs achieved and results expected. The strengths and weaknesses highlighted in the evaluation are also summarised and key documents mentioned. An example of a Country Summary

Sheet is presented in Annex IV and all of the detailed Country Sheets can be found in Volume II of this thematic evaluation.

The thematic evaluation has been built on nine evaluations of UNIDO SMTQ projects in 15 countries (see table 2). The total value of the projects was approximately USD 34.5 million. The average value of these projects was USD 3.8 million. If the regional projects are divided into their constituent countries, then the average per country falls to approximately USD 2.2 million. The largest project budget was the individual country project in Bangladesh (USD 9.9 million). The smallest one (USD 0.5 million) was another project in Bangladesh that comes under the regional project in Southern Asia Association for Regional Cooperation (SAARC) countries. Project durations ranged from as short as 24 months (Tanzania, Vietnam - subsequently extended by one year) to as long as 52 months (Bangladesh BQSP). In the case of Sri Lanka, UNIDO interventions were spread over a period of at least 8 years. Some evaluations were of projects in second phases (e.g. SAARC, UEMOA and Mekong) or multi-project interventions (Sri Lanka). This analysis does not reflect the cumulative investment in some countries, for example in Tanzania, where UNIDO projects in the SMTQ area have been present since more than one decade. The average implementation period was approximately 40 months[7].

2.2.3 Thematic evaluation research structure

The research method for the thematic evaluation was structured into four iterative stages of generating and validating Key Success Factors ("KSFs"). The first tentative set of KSFs was generated from six recent evaluations (Mozambique, Tanzania, Nepal, Bhutan, Maldives and Bangladesh) and then reviewed by the evaluation team and members of the TCB Branch in UNIDO. In a second step the revised set of KSFs was validated against three additional countries/projects (Vietnam, Laos and Cambodia), for which earlier evaluations existed and which the evaluation team visited to ensure a comparable timeframe of the overall thematic evaluation. From this a third short-list of KSFs was developed and once again reviewed by UNIDO. This third short-list was tested during a final round of country evaluations (Lebanon, Sri Lanka and Ghana) and evaluation updates (Cote d'Ivoire, Togo and Senegal) to produce the final KSF list presented here. The evidence base of each KSF is documented in detailed "KSF sheets", which are presented in Volume II of this report. A summary of the KSFs with some highlighted examples from the evidence base and indications of which evaluations exhibited the KSF are presented in Chapter 4 below.

[7] For Norwegian Agency for Development Cooperation (NORAD)-funded project in Mekong Region, it was assumed that a non-cost extension of 12 months was granted thereby increasing total duration from 30 to 42 months (originally, the project was planned to be completed by December 2008.

The second stage in the process was to map the scope and coverage of the projects included in the evaluation sample. The evaluations selected and conducted were not homogenous and the range of commodities, products, sectors and technical areas of SMTQ covered by the projects reveals something about the needs of the partner recipient countries and UNIDO expertise base.

A third stage in the thematic evaluation process, which ran concurrently throughout the period or research was to validate and test the method and the emerging findings. Three validation exercises were conducted (see Annex II) where the methods were presented and various iterations of the list of KSFs and methods for clustering and analysing these KSFs were discussed with TCB. During this stage KSFs were developed into a list of evaluation questions and then tested in the field on new evaluations in the field as opportunities arose in the form of KSF check-lists. The final KSF check-list is presented at Annex III.

The fourth stage of the thematic evaluation was to use the evidence base of up to date evaluations and KSFs to draw conclusions and recommendations for future SMTQ interventions. These are synthesised in Chapters 4 and 5 below.

2.2.4 Defining Key Success Factors (KSFs)

The thematic evaluation used the identification of KSFs in existing SMTQ evaluation reports as a way of finding common areas where improvements could be made (or where best-practice could be identified). We have defined KSFs in four ways. Firstly, KSFs are conditions for developing and implementing successful projects. These conditions can be those found when the project starts and can also change during project implementation and lead to project success (e.g. improved domestic security). To learn from thematic evaluation UNIDO needs to answer the question “what elements are crucial to SMTQ success”. To address this question the evaluation has to go beyond purely physical elements needed for successful SMTQ projects and consider issues of context and process such as wider management and coordination. Secondly, KSFs contain elements of best practice that are emerging from the experience that UNIDO has in identifying, designing, implementing and evaluating SMTQ projects. Best practice is demonstrated by evidence of successful achievement of objectives, particularly project outcomes, and uptake by others. Thirdly, KSFs are a possible means to identify and focus upon particular ‘hot-spots’ or ‘bottle-necks’ within SMTQ and particularly National Quality Systems that threaten project success and achievement of project objectives, sustainability and impact. Finally, we see KSFs as possible bench-marks or markers against which future SMTQ project evaluations might assess the direction this type of project is moving in and allow

some light to be shed on the question "are we getting better at SMTQ projects"?[8] In the future, regular thematic evaluations might produce check-lists of KSFs which, when applied to new evaluations in the same theme over time could demonstrate the direction of learning and improvement or result in identification of new thematic KSFs for use as future bench-marks. Another perspective on KSFs might also be that they may also contribute toward project impact although this would have to be tested.

For each KSF detailed (note that there was an elaborate iterative process of narrowing down and testing KSFs – see Box 3) evidence was drawn from the evaluation sample and summarised with particular reference to the relationship between the KSF and three important evaluation guiding principles: the DAC Evaluation Criteria (relevance, efficiency, effectiveness and sustainability), the Paris Principles in Aid Effectiveness[9] (ownership, harmonization, managing for results and mutual accountability), and, the location of that KSF within the project cycle (identification, design, implementation, monitoring and evaluation). The relative strengths and merits of the evidence supporting each KSF were also considered. The volume of information in the KSF Summary Sheets was too great to include as an Annex in this report. An example of a KSF Summary Sheet is given at Annex V and the full set of Sheets provided in Volume II of this report.

Box 3: How were KSFs derived and tested?

Firstly, comprehensive list of "main findings and conclusions" were retrieved from a desk-study of past evaluations available as per 28 February 2009. The available literature was reviewed to establish key issues including: update reports on some of the evaluations within the sample (Keller 2009a; Keller 2009b), selected documents of an internal retreat of the Trade Capacity Building (TCB) branch of UNIDO (Kellermann 2009), and some recent key literature on national quality systems (Wilson and Abiola 2003; International Trade Centre UNCTAD/WTO 2004; UNIDO 2007). Subsequently, the team selected those positive and negative findings and/or conclusions that were (a) identified by more than one evaluation report and/or (b) that were highlighted as crucial factors contributing to the achievement or failure to achieve at least one or several objectives of a specific project. All other "issues" deemed not of general relevance or not 'key' to success or failure were eliminated at this stage.

2.2.5 Grouping Key Success Factors (KSFs) into themes and clusters

Methodologically, identifying a meaningful and manageable list of KSFs proved difficult and went through several stages. It was finally decided to cluster KSFs according to six "themes" related to the nominal location of the factor within the project cycle. These themes are defined in Table 3.

[8] This definition draws upon that used by IFAD (undated). An overview of managing for development results at IFAD. Rome, International Fund for Agricultural Development

[9] Also sometimes referred to as the "DAC Commitments" because donor states committed themselves to their implementation

Table 3: UNIDO project cycle themes

Theme		Description
A:	Project tailored towards country context	The adaptation of the project to its context through the project cycle
B:	Long-term planning	The direct and wider planning context in which the project is situated and how this impacts on the project cycle
C:	Efficient implementation mechanism and management	The mechanisms to ensure efficient conversion of inputs into outcomes during the project cycle
D:	User-oriented and systemic approach to NQS development	The degree to which the project outputs and outcomes are embedded within the NQS as a whole and the universe of beneficiaries specifically
E:	Effective capacity building	The degree to which the appropriate stakeholders and beneficiaries are enabled through the project process to sustain the outcomes
F:	Good project governance and ownership	The ability of stakeholders and beneficiaries to engage with the project and own the project outcomes

The final KSF list is shown in Table 4 and discussed in depth in Chapter 4 below. Some KSFs are particularly relevant to points in the project cycle whilst others are generic and might be relevant throughout the cycle. This was recognised in Table 4 by bars indicating the relative location of the KSF in the Project Cycle Management phases (e.g., identification, formulation and design, implementation, monitoring and evaluation (UNIDO 2006:122))[10].

[10] NB: UNIDO Technical Cooperation Guidelines recognise two more elements to the project cycle: "resource mobilisation", and "review and approval". These have been compressed into three headings to simplify the matrix.

Table 4: Key Success Factors, their location in the project cycle and relationship with the DAC evaluation criteria

Key Success Factors	Related to: PCM phases: Identification	Formulation & design	Implementation	Monitoring and evaluation	DAC criteria
A: Project tailored towards country context					Relevance
A.1 Potential quality drivers needs identified and addressed	■	■	■	■	
A.2 Project strategy aligned with country context and needs	■	■	■	■	
A.3 Appropriate time frame and size of projects	■				
A.4 Effective external and internal coordination		■	■	■	
A.5 All elements of UNIDO "Three C" approach addressed		■		■	
A.6 Project adapts to changing country context			■	■	
B: Long-term planning					
B.1 Donor agenda allows for long-term planning	■				
B.2 Project embedded in wider planning context		■		■	
C: Efficient implementation mechanisms and management					Efficiency
C.1 Project management tools utilized	■	■	■	■	
C.2 UNIDO internal coordination addressed	■				
C.3 Procurement, expertise and other UNIDO services efficiently provided		■	■	■	
C.4 Field fully empowered		■	■	■	
C.5 Practical implementation issues addressed			■	■	
D: User-oriented and systemic approach to NQS development					Effectiveness Impact
D.1 Conflicts of interest and fragmentation of NQS addressed	■	■	■	■	
D.2 Regional approaches use resources efficiently	■	■	■	■	
D.3 Availability of and need for SMTQ services studied	■	■	■	■	
D.4 NQS/SMTQ policy issues addressed		■	■	■	
D.5 All scales of business reached		■	■	■	
D.6 Consumer voice strengthened		■	■	■	
D.7 "New" standards included		■	■	■	
E: Effective capacity building					Effectiveness Sustainability
E.1 Appropriate counterpart institutions selected	■				
E.2 Institutional setting conducive to sustainability		■	■	■	
E.3 Credibility of SMTQ institutions promoted			■	■	
E.4 Appropriate counterparts appointed and retained			■	■	
E.5 Equipment maintained and budget available for recurrent expenses			■	■	
F: Good project governance and ownership					Sustainability
F.1 Good project governance designed, agreed and implemented		■	■	■	
F.2 Alignment		■	■	■	

The decision to place a particular KSF at a specific point in this matrix is merely a useful heuristic tool. It is recognised that the boxes and clusters should be seen as having "blurred" edges and not rigidly associated with a location on this matrix. In order to judge how strong the evidence base was from each evaluation for the KSFs, the evaluators ranks each one and eliminated those with "no" or "weak" evidence[11].

The results of the application of this method of finding common KSFs and clustering them for the purpose of analysis are presented below in Chapters 3 - 5.

2.3 Methodological Limitations

The thematic evaluation of SMTQ on the wide-scale that is attempted here has some limitations.

Firstly, by only using existing (though relatively recent) evaluations and evaluation updates as our evidence base so the 'snap-shot' taken is naturally of past practice rather than current practice. In such a phase of dynamic learning and growth in TCB work, this risks being quickly over-taken by events.

Secondly, the sample used was necessarily purposive and may not perfectly represent all existing TCB projects in SMTQ. The findings of this thematic evaluation are, therefore, generalisations from this purposive sample.

Thirdly, the method of 'up-dating' older evaluations to level off the findings may not have the depth or authority of a full evaluation as time was limited and the evaluation team small (in many cases only one person working alone). The update of the UEMOA evaluation, which covered only three out of eight countries and not the regional institutions, is a case in point.

Fourthly, most of the projects evaluated were identified and formulated more than three years ago, so practices may have recently changed.

Fifthly, the sample taken is far from homogenous: projects cover many different areas of SMTQ and countries in different stages of development. The projects themselves vary in length and size. We recognise the risk of generalisation from a non-homogenous sample.

Sixthly, in terms of evaluation, we consider SMTQ to be particularly technically complex, multi-faceted and dynamic. The absence of clear impact pathways and relationships in this complicated technical area means that clearly demonstrating cause and effect is difficult and strongly connecting evidence to recommendations is challenging.

[11] The ranking and discussion of the limitations of each KSF is given in Volume II.

Finally, it is recognised that it is often the case that project selection, formulation, design and implementation are factors beyond the direct control of TCB for example when they get a budget and a list of donor needs/requirements and have to respond as a service provider.

III

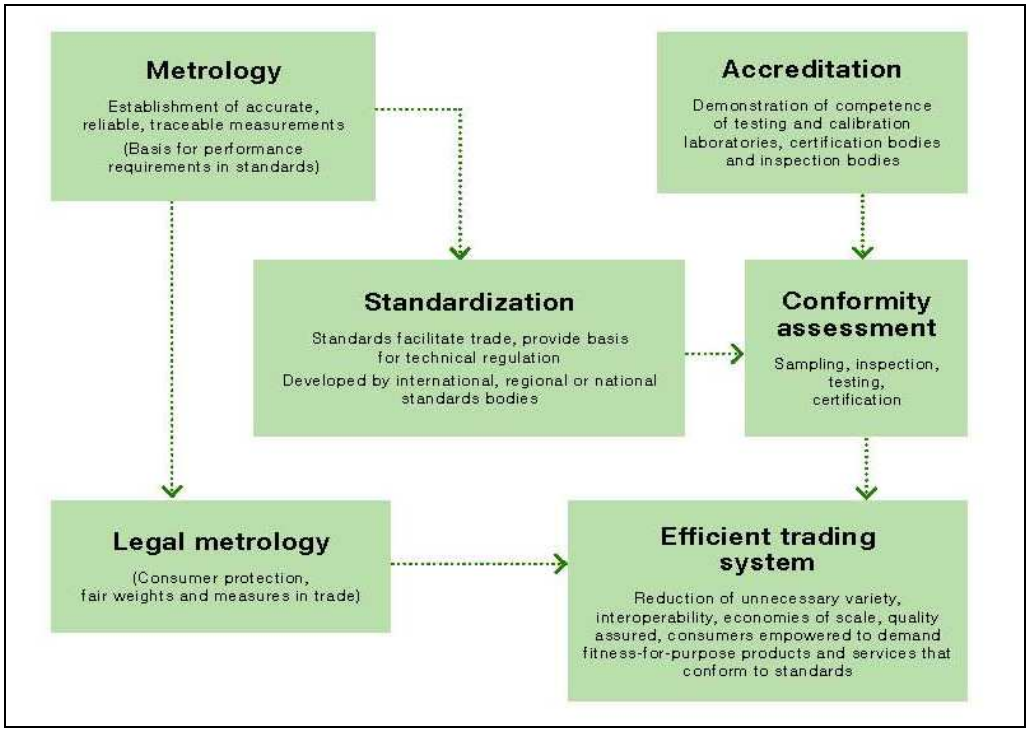
Mapping standards, metrology, testing and quality management interventions

This section addresses the question: what are the main elements of a National Quality System. An attempt is made to describe the products, sectors and NQS infrastructural elements addressed by the projects being thematically evaluated.

3.1 Elements of SMTQ systems

UNIDO (UNIDO 2006:4) contends that a compliance structure needs five elements to meet the obligations under the WTO Technical Barriers to Trade (TBT) and Sanitary and Phytosanitary (SPS) Agreements (WTO 1979; WTO 1995). These are: metrology, standards, certification, testing and accreditation. The International Organization for Standards (ISO) talks of three pillars: metrology, standardization and conformity assessment (ISO 2006). Kellermann (2009) in his recent handbook for quality infrastructure, suggests six “domains” of national quality infrastructure: standards, metrology, accreditation, inspection, testing and certification. The relationship between these elements is summarised in Bonner et al (2008:11) which is reproduce in Figure 1 below for reference purposes.

Figure 1: Key elements and linkages in SMTQ infrastructure



Source: (Bonner, Inklaar et al. 2008:11)

UNIDO suggest that the basic or minimum SMTQ infrastructure necessary for countries and their exporters to comply with international agreements and participate in the world trading system includes the following capacities (UNIDO 2002; Stiglitz and Charlton 2005:212).

- A national or regional standards body to develop national standards adopt international standards and to participate in international standard setting activities.
- A national or regional metrology system that ensures that measurements and tests for production, quality and certification activities are consistent and correct. Elements include laboratories for primary and secondary physical standards, reference materials for chemical and microbiological purposes, laboratories for legal and industrial metrology, and a system for calibration and materials testing. Legal metrology is particularly important for the protection of domestic consumers from unfair selling practices.
- A conformity assessment system that includes internationally recognised testing and certification of products, systems and processes. Certification for quality management (ISO 9000), environmental management (ISO 14000) and food quality (ISO 22000 and Hazard Analysis of Critical Points (HACCP)) are particularly important elements of conformity assessment in trade.

- A national or regional accreditation system which can evaluate the calibration and testing laboratories that certify products, systems and processes to ensure that these meet international standards and requirements.
- A technical support and information service to supply producers and consumers with information on quality requirements, product specifications, and standards and to support producers to improve their processes and product quality.
- National capacity to implement the WTO Agreement including enquiry points.

It could be argued that a further domain exists which is the demand-pull of domestic quality drivers such as consumers, local export firms, international investors and international buyers to call for improvements in the NQS and monitor their implementation. In some countries this function is conducted by national quality forums of interested stakeholder or by industrial or consumer lobby groups. The role of quality demand is clearly an important element of a country's capacity but its development is not well documented or understood in relation to developing countries.

3.2 Mapping UNIDO projects by areas of intervention

The Evaluation Team applied the above framework of "normative" elements of a notional SMTQ system to map the UNIDO different elements of the projects evaluated. The purpose was to demonstrate the range of technical coverage and identify areas of concentration. The results are presented in detail in Annex VI. The general conclusions that might be drawn from this are:

- The range of scope, complexity and possible elements of SMTQ interventions are many and diverse.
- Areas of particularly concentrated intervention were metrology infrastructure, meeting WTO obligations, development of technical regulations and laboratory infrastructure.
- The only areas where more frequent TCB intervention would have been necessary are stimulating the demand for quality and improving the protection of domestic consumers (border inspection and market surveillance) though some recent attempts to move into these areas were present (e.g. border inspection [7] and consumer education [9]).

The mapping exercise suggests that the 'mix' of activities and elements of intervention varies substantially and that UNIDO is working in the right technical areas for the countries evaluated.

A key issue faced by UNIDO is the range of SMTQ infrastructure required. In some countries with relatively un-developed or small economies this range is limited [7b, c and d but not 7a]. In others the development of SMTQ

infrastructure is clearly led by specific resource endowments (e.g. a fisheries sector) or new economic development models such as clusters, lead industries and sophisticated value chain management. This means that in some countries sectors with sophisticated national quality system demands exist alongside sectors which are much less developed. In Bangladesh, for example, ship-building and pharmaceutical sectors are rapidly emerging next to much less sophisticated industries such as brick-making. The extent to which some industrial sectors 'drive' development of SMTQ infrastructure and how UNIDO has responded to this phenomenon is considered next.

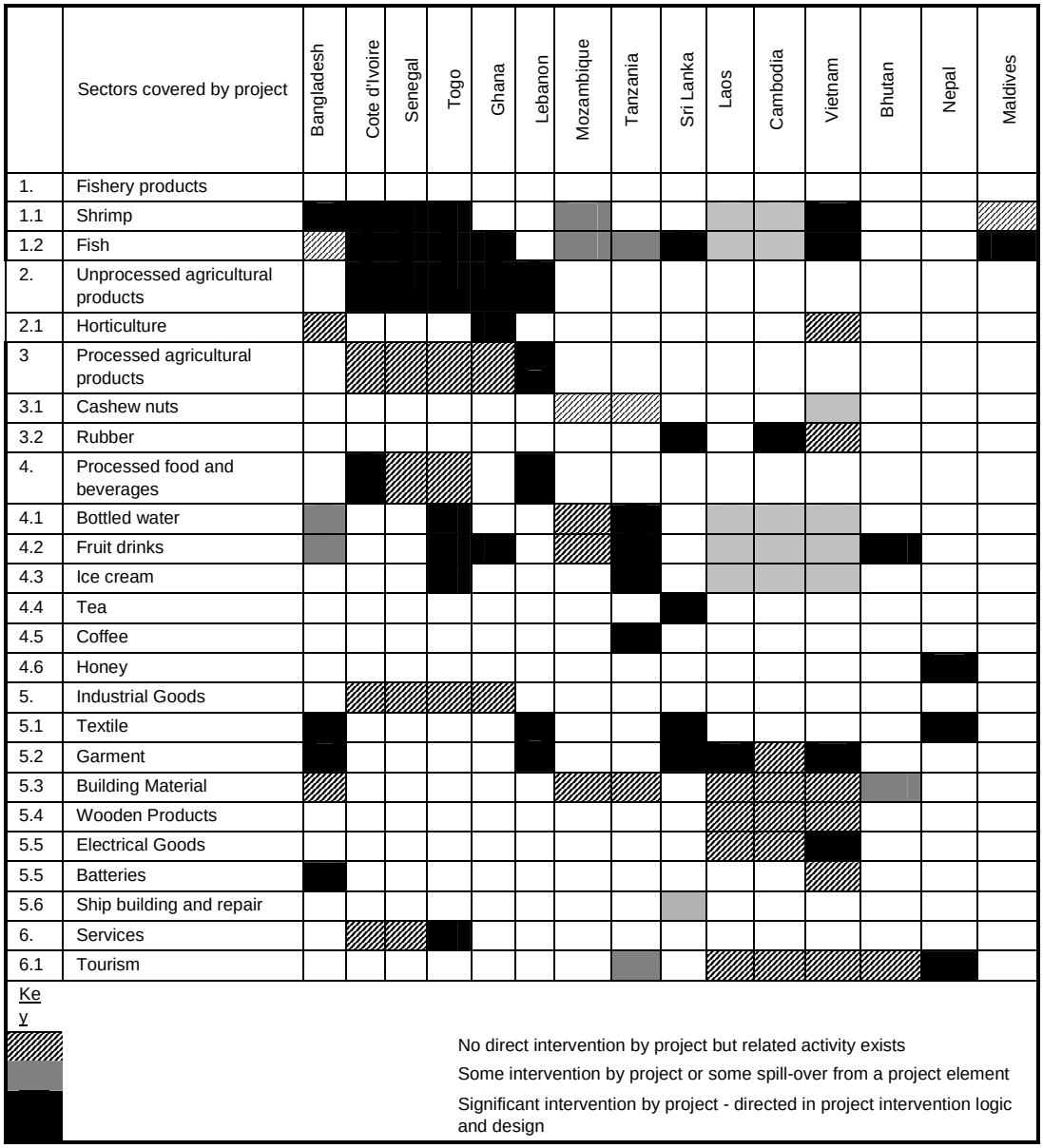
3.3 Sectoral mapping

UNIDO SMTQ projects evaluated were mapped against the industry sectors explicitly covered in the intervention logic of these projects. From the matrix shown in figure 2 the following conclusions can be drawn:

- Comparing and mapping sectors and technical areas of intervention indicates a range of different choices. One important distinction that seems to be emerging is between projects focused on overcoming Technical Barriers to Trade (TBT), such as compliance with packaging regulations in target economies [4], and those dealing with sanitary and phytosanitary (SPS) compliance [1][12].
- Garments are a common intervention area but the problems here are mostly related to compliance with private standards of the buyers rather than technical regulations [8]. In the areas of processed foods and fisheries products, the application of strict technical regulations by a "competent authority" recognized by the EU seems to be a more important driver of sector and technical choice [7; 8].
- Several projects have worked with standards and compliance for bottled water. This would seem to be a lead sector in domestic markets where quality assurance is driven by consumer needs.

[12] The balance of UNIDO work between TBT and SPS related interventions as a proportion of the 'Compete, Conform, Connect' seems to be heavily biased towards TBT (27%) rather than SPS (9%) though this was not entirely born-out by the evaluations samples here. Figures from Cali, M. (2009), UNIDO and Aid for Trade in the international context, Re-Visiting UNIDO TCB Approach, Schloss Wilhelminenberg, Vienna, United Nations Industrial Development Organization

Figure 2: Industry sectors covered



Source: various evaluations

3.4 Comparing design and design choices

The evaluations conducted for this thematic evaluation used as their basis the standard UNIDO evaluation practice and criteria (UNIDO 2006:15). In principle, all UNIDO projects are developed, managed and evaluated using the logical framework approach as the key tool. Therefore, as part of this thematic

[16] Though the evaluation recognised that there can be a case for capacity to exist in more than one institution, particularly if they collaborate closely and compliment each other

evaluation comparison of the basic logical framework is an important means of levelling-off the basic design features of the different interventions.

Table 5 below compares the key features of the logical frameworks of the projects evaluated and summarises some of the comments provided by the evaluators.

The thematic evaluation first asked if a logical framework existed for each project. Evaluation in the absence of an agreed logical framework is very difficult. In a number of cases several different logical frameworks existed [1] [6] or the logframe presented to the evaluators was different to that used by the national counterparts. In one case this confusion was caused by a different logical framework being presented in the project documentation required by the donor to that used by UNIDO in the field [1]. The majority of projects had logical frameworks.

The second question was whether the projects were being managed towards well defined objectives (e.g. Results Based Management). In all cases objectives had been defined and in some cases logical frameworks were used as tools for listing and to some extent monitoring activities (e.g. physical progress) and spending (e.g. financial progress) [7]. However, due to the lack of outcome monitoring schemes the evaluators were unable to see the progress towards achieving those objectives and compare this with the logical framework. The other elements compared are those considered standard in UNIDO Technical Cooperation Guidelines: development objectives, outcomes, outputs, indicators and assumptions (UNIDO 2006:94).

This analysis of logical frameworks included in project documents suggests the following:

- Projects don't seem to be embedded in some kind of long-term planning over several projects or project phases. This was in particular evident in LDCs, where the NQI was at the very initial stage of development and the support needed clearly exceeded scope and length of the intervention.
- Closely linked to that, most project designs turned out to be overambitious because the project duration and the resources available were not commensurate for reaching all intended objectives. A number of projects ran out of funding.
- Logical frameworks were in many cases not properly applied – but there is a clear tendency for improvements in this respect for projects that were designed at a later stage.
- Expected outcomes and planned activities were not always logically linked to the development objective. Surveys of National Quality Infrastructure were often limited to specific institutions, without considering other suppliers of quality services.

- Performance indicators were not always measurable and some of the indicators were not conclusive in regards to whether objectives had been reached or whether the outputs produced were causal for the achievements. Also, with the exception of [7], assumptions were not complete and risks not properly assessed (in terms of the likelihood an external threat relevant for the success of a project is likely to materialize). Reporting was in many cases activity- rather than output-based.
- With only one exception [7] the relationship between baseline information (the before-project situation) and the attainment of targets (or mile-stones) as a result of project activities is not considered making it hard to ascribe impact to project activities or to easily undertake any ex-post measurement of outcomes and impact.

In practice, the widespread and consistent use of the logical framework as a management tool in UNIDO only seems to have emerged at the beginning of the period of this thematic evaluation and some of the earlier projects, for example in [8], had no logical framework at all. It is possible to see a gradual evolution of improving logical frameworks driven by pressure from the donor [5] [7]. In Ghana [3] and Lebanon [4] national counterparts seem to have taken ownership of the logical framework as a management tool.

Table 5: Comparisons of intervention logic

Country (project start date)	RBM	Log-frame	Development Objective	Outcomes	Outputs per outcome	Evaluation comments on logic	Indicators	Sources of data	Evaluation comments on indictors	Assumptions/risks identified
Bangladesh (BQSP)	No	Yes but not used	Contribute to growth and poverty reduction assisting Bangladesh in the development, strengthening and diversification of its production and export base.	1. Quality Management System and conformity assessment improved. 2. Innovativeness and competitiveness of textile and garment industry improved 3. Fisheries inspection capacity strengthened 4. Private sector supported for TBT/SPS requirements	7 5 3 3	Insufficient stakeholder analysis. Logical framework prepared but not used.	Yes	Yes – but no data collected	Poorly formulated – not quantified or time bound	Identified and considered appropriate
UEMOA	No	Yes, but only for entire project not indiv. comp.	"Contribute to the gradual regional integration of the West African region into the world economy and international trade through supporting the Commission of ECOWAS, the Commission of UEMOA and West African States including Mauritania as well as non-government actors"	Expected results (summarised, UEMOA only): 1. Accreditation: A regional, internationally recognized accreditation service 2. Testing and metrology: Local and regional calibration services. 3. Standardization: Harmonized regional standards in quality, health, and environment. 4. Inspection: Local inspection services. Consumer protection regulations. Quality management systems for plant and animal health. Awareness rising on TBT/SPS will be conducted. 5. Quality Promotion and Quality Management:	Defined as activities	Clearly too ambitious considering the difficult political and economic context of the region. Intervention broad; covers almost all areas of SMTQ. Logic relies on inputs provided by other projects (industrial upgrading) Project intervenes at regional and national level in parallel - is the support to individual countries sufficient to achieve a level that is sufficient as a basis for regional integration?	Yes - but not separated between two project comp. (ECOWAS, UEMOA).	Available	Most of them are measurable	Not specific, how to address risks is not defined.

Country (project start date)	RBM	Log-frame	Development Objective	Outcomes	Outputs per outcome	Evaluation comments on logic	Indicators	Sources of data	Evaluation comments on indictors	Assumptions/risks identified
Ghana (11/06)	Yes	Yes	Enhance export performance	1. Strengthening Ghana Bureau of Standards (GBS) 2. Establishment of traceability system for horticulture 3. Developing mgmt certification capability of GBS 4. Accreditation of GBS and other laboratories 5. Ministry regulatory service "EU competent"	4 1 2 1 2	Overambitious; Wordy descriptions leaving too much room for interpretation; Too many outcomes; logical flaws	3 (for D.O.) 18 (for outputs)	Yes (surveys!)		yes
Lebanon	No	Yes	To facilitate industrial development and trade by reducing technical barriers to trade through strengthening capacities of the Lebanese TBT/SPS infrastructure and capabilities	1. Upgrading of laboratories, services for packaging and labelling for exports; 2. Technical support, information for market access and consumer protection and 3. Improving Lebanese quality chain of selected agro-based products.	4 3 3	Logical vertical link from the overall objective down to the activity level of each output, with the exception of output 2.4 (mobile metrology laboratory for market surveillance with the objective to improve consumer protection), which was aimed to serve purely the domestic market.	Yes, but not all are measurable and some are not linked to the objectives	Yes, but not all of them are clear		Identification of risks and assumptions is rudimentary and generic. No plan how to address risks.
Mozambique (11/05)	Yes	Yes	Facilitate industrial development and export capabilities	1. Food safety system compliant 2. Standards, metrology & conformity system suitable	4 5	Overambitious; Two balanced components (food & non-food), each with policy and infrastructure outputs	31	No	Large number of indicators, some of good quality but some of them vague or rather milestones; one D.O. indicator but attributed to output; model indicators for NEP (?)	no

Country (project start date)	RBM	Log-frame	Development Objective	Outcomes	Outputs per outcome	Evaluation comments on logic	Indicators	Sources of data	Evaluation comments on indictors	Assumptions/risks identified
Mekong	Yes	Yes	Facilitation of industrial development, consumer protection and export capabilities (…) through the strengthening of standards, Metrology, testing and quality management institutional infrastructure and national capacities"	For each country different (tailored to specific gaps identified by evaluation of phase I and an assessment at the design stage). Outputs include: 1. Formulation of national standards 2. Development of QMS certification capabilities 3. Accredited product certification scheme 4. Establish and equip laboratories (testing capabilities in key areas) 5. TBT enquiry point 6. Metrology capabilities 7. HACCP certification 8. Certification scheme for CE marking 9. Traceability scheme		Clearly overambitious Risks and assumptions not clearly defined Overall objective includes consumer projection, but none of the objectives relates to this. Intervention too broad, working with too many organizations	Yes, one per output	Not defined but mostly obvious and easy to obtain	o.k. Majority of indicators clearly measurable – however their achievement does not yet mean that objective has been fully achieved.	Not detailed
SAARC	Yes	Yes	Facilitate industrial development and export capabilities	1. Product certification marks accepted 2. Reduced technical constraints to export 3. Quality Management Technique awareness 4. Plan to strengthen import quality control developed 5. Awareness of various international standards in industry 6. Increased use by companies of QMS certificates at lower cost		Overambitious. Attempt at RBM well received.	Yes	No	Not time-bound or quantifiable.	Identified but of little practical value.

Country (project start date)	RBM	Log-frame	Development Objective	Outcomes	Outputs per outcome	Evaluation comments on logic	Indicators	Sources of data	Evaluation comments on indictors	Assumptions/risks identified
Sri Lanka	Yes	No	Facilitate industrial development and export capabilities	No logical framework	n/a	Overambitious;	No	No	n/a	n/a
Tanzania (11/05)	yes	Yes	Facilitate industrial development and export capabilities	1. Metrology system strengthened 2. Conformity system strengthened 3. Improved quality chain	4 1 1	Overambitious; The single outputs under outcomes 2 and 3 are too generic, should be split into different outputs	24	no	Balanced set of indicators of good quality but unclear to which level they belong	no

IV
Findings of the thematic evaluation

This section considers in detail the findings of the individual evaluation studies that are referred to in brackets [ ] based on the numbering in Table 2. Commonly identified KSFs as defined above in Table 4 are discussed under six thematic sub-chapters. The numbering system and the sub-chapters in this section reflect the position of the respective KSF in Table 4 (e.g. D.1). In each case the KSF is defined and/or described and the evidence summarised. Case study evidence is included in boxes. More detailed analysis can be found in the KSF sheets in Volume II of this report.

4.1 Theme A: Project tailored towards country context

KSF A.1 Potential quality drivers identified and addressed

This KSF emphasizes the difference between supply and demand driven approaches. The degree to which developing basic National Quality infrastructure will 'push' industries into new markets or whether market opportunities cause firms to demand new SMTQ services is a moot point. This KSF deals with three areas of potential "quality drivers":

(1) The domestic demand for quality or 'quality culture' [9] [1] [5 a - b];

Countries with excellent national quality infrastructure usually also have consumers with the economic power, knowledge and will to discern and demand better quality products. Building successful export businesses in the vacuum of the absence of domestic quality demand is challenging, because at all levels of society the benefits of quality are not seen.

Box 4: Innovative activities promoting demand for quality

In Tanzania two activities were conducted related to the demand for quality but not included in the original project logic. These were a survey of food hygiene standards in tourist hotels with the intention of raising the awareness of quality problems, and development of school curriculum material for food science and technology high school students. The evaluation found that the impact of the food hygiene survey was doubtful because it was unrelated to any other project activity. It also found the curriculum development not to have had any impact because there was no commitment from the Ministry of Education to include the new curriculum in the existing national curriculum.

Several of the projects evaluated (e.g. [1], [9]) recognised that there was a need (or perhaps a missing need) within the intervention logic, for consumers and domestic companies involved in export to be more aware of quality and therefore more able to respond to the quality

demands of international trade (see Box 4). Awareness raising and stimulating the demand for quality was exhibited in various ways. The project in Bangladesh supported a domestic consumer lobby to act as a lever to promote better quality in domestically produced and imported products. The project in Tanzania attempted to encourage the concept of quality within the structure of the education programme using the logic that if students understood, for example, the importance and benefits of personal hygiene, this might spill-over into a more general quality "ethos" among future workers. In Cote d'Ivoire, television was used to explain the function and importance of SMTQ, while national quality awards were another tool to promote quality within UEMOA [e.g. 2a – 2c]. In Cambodia and Laos, UNIDO originally intended to include strengthening of consumer organizations, but this was subsequently abandoned as it was not possible to identify an appropriate organization to work with (NB: identifying the appropriate consumer lobby to work with is a common problem – in Bangladesh there are at least two Non-government Organizations involved in Consumer Affairs each with an equal case for UNIDO support, but only one could be supported under the project). In Togo, efforts by the National University were underway to introduce a quality curriculum (post graduate for science students and engineers) and courses for professionals. Comparing Cote d'Ivoire and Senegal with Lao PDR and Cambodia (all LDCs) shows the importance of including quality education at the university level for the availability of expertise in the country – with a possible positive impact on the demand for quality by enterprises. A third area that may also contribute to this KSF is promoting demand for quality services among domestic firms. In Bangladesh [1], for example, small companies were unaware of either their quality obligations or, more importantly, the potentially huge potential benefits from compliance.

As yet, there is scant empirical evidence to demonstrate a direct link between the demand pull in the domestic economy for quality and general improvements in the ability of countries to meet international quality standards. The case of Sri Lanka [8 – notably in the ship repair sector] suggests that SMTQ projects can contribute to building the quality reputation of a country.

Other issues that emerged from the evaluations relating to this aspect were how to best support domestic consumer lobbies (see Box 5) and the relationship between SMTQ and poverty. These two factors suggest that more research and

Box 5: Consumer lobbies.

There is, as yet, no developmental solution to the problem of how to encourage consumers to demand quality or lobby for protection from low standard goods. A number of models exist in developed countries, including, for example, charities funded from consumer magazines (e.g. Consumer International) and directly funded quasi-government agencies such as the one in Ireland. In developing countries the consumer lobby is almost absent [5 b] or weak [2 a – c] Where it does exist it is often seen as politically biased (e.g. in both [7a] and [6] the Consumer Lobby was considered to be a political instrument), in some developing countries, the consumer protection organizations are para-governmental, e.g. in 5c – to some degree also subject to political influence, which plays a role if the interest of state-run companies are involved in cases of consumer's complaints

intervention may be needed in domestic consumer protection in developing economies because this may be particularly beneficial to the poor and vulnerable and particularly to women.

(2) Sectors that 'lead' or drive quality systems [1] [6] [9] [7c] [8];

Export sectors such as textiles and fisheries drive the demand for domestic quality infrastructure. The demand for quality passes from the high quality end markets for these sectors (e.g. the European Union and Japan), through exporters down the value chain to producers. There are two senses in which firms of specific sectors within an economy might be driving improvements in the national quality infrastructure. The first is through the transmission of quality signals from firms whose market position allows them to dictate the rules of participation in the market. This type of firm is known as a "lead-firm". The second area of quality drive is where market access is dependent upon attaining a certain standard. This might be called a market driven value chain.

There is some evidence that countries with either lead-firms or who have sectors that are driven by quality and market access issues have better national quality infrastructure.

In Bangladesh, for example, exports of shrimp to the European Union depends upon meeting stringent food safety rules and the evaluation demonstrates that regular inspections and notifications of rejections of products has resulted in investment in the quality infrastructure to prevent total market loss. The same was observed in the fisheries sector of Mozambique.

In the textiles sector of Bangladesh and Sri Lanka there was clear evidence that lead-firms such as Tesco's and Marks and Spencer, where 'driving' the demand for the application of social standards through the supply-chains to the point where larger local companies have begun to demand better work practices in their smaller suppliers.

In Mozambique, the existence of an ISO 17025 accredited laboratory in the Fisheries sector was seen as both a considerable national achievement, but also an example to be copied by other sectors.

In Bangladesh, the very high quality standards achieved in the pharmaceutical sector have resulted in the emergence of a support infrastructure of consultants and testing services. However, the spill-over into demand for metrology had not occurred because the national metrology body still does not have sufficient credibility or efficiency to meet the demands of the private sector.

How important export quality demand drivers might be in comparison to domestic demand drivers is also an issue that should be considered. In small, less developed economies, where domestic demand is limited, it might be expected that export is the key quality demand driver. However, there may be exceptions. The existence of a highly quality conscious emerging middle class ([1], [5c]) or a vibrant tourism sector ([7b - c], [8]) could also be quality demand drivers. There are also, even in relatively un-industrialised countries, still some underlying sectors that need to have basic quality infrastructure. We note that water and beverage quality is a common factor ([6], [7b], [8] and [9]). Defensive reasons (e.g., protecting the domestic population from harm through substandard products) are not particularly strong drivers of quality infrastructure. For example, testing imported pharmaceuticals is a very important issue in Bangladesh because of the dire consequences to the poorest of sub-standard products. However, though this issue has received considerable press attention, it has not (yet) led to a substantial investment in testing systems. International food scares such as the recent melamine baby-food contamination scandal in China, has led to some domestic demand for testing.

External or domestic shocks and bans that push change [1] [7b] [7c].

The concept of a quality 'driver' is explained above. One specific quality driver which is so important that it deserves separate consideration is where a lead-firm or sector stops production or export or is threatened with prevention of market access. These are so-called 'shocks and bans'.

When a product fails to comply with the necessary standard demanded by the market then the usual response of the importer is either to issue a warning or not to re-order. At its most extreme, this can be applied at the level of countries. For example, the European Union's food safety regime operates on the precautionary principle for many contaminants. If testing discovers that there are contaminants in products it is not the firm that is subject to loss of market access or a higher degree of inspection, but the country as a whole. In this way, the responsibility of the individual firm is inexorably associated with compliance at the level of national quality infrastructure and the government is forced to take a role to prevent free-loading (e.g. individual firms spoiling the market for all).

In several of the evaluations it can be seen that substantial changes to quality infrastructure, and the original approach to donors for assistance, was in response to a shock or a ban. In Bangladesh, for example, an inspection report from the EU Food and Veterinary Office of DG SANCO of October 2007 identified that the Department of Fisheries did not have the necessary equipment to test for some veterinary drug residues such as malachite green and hormones. In response to this, the Department of Fisheries formerly requested the equipment from UNIDO.

There are no clear examples in the evaluations of the of quality infrastructure developing in parallel to or before the emergence of markets. The development is normally reactive (e.g. we now have a fisheries export sector so we should have the ability to test for hormones). This suggests a strategic failure on the part of national quality infrastructure and implies that the antithesis of shocks and bans as a KSF should in fact be 'clear strategic planning' (see Box 6 for example). For instance Togo is currently suffering from a self-imposed ban on fish exports to the European Union, due to the lack of testing facilities for some of the key parameters required. In Ghana, most of the key testing parameters are available within the country, but since export inspection is not compulsory, many exported goods are not tested before they leave the country. This resulted in alerts and reportedly also to rejections – with a negative impact on Ghana's reputation as a whole.

Box 6: Do external shocks encourage strategic change?

Bangladesh fisheries have been inspected in several occasions by the DG SANCO, most recently in 2007. These inspections are in response to several notifications of quality problems with Bangladeshi shrimps in the EU. As a result, UNIDO interventions in the fisheries sector focussed on strengthening the capacity of the Directorate of Fisheries to test for hormones and contaminates and to train private sector companies. The evaluation noted a number of structural problems and inconsistencies in the quality management systems of companies, private laboratories and government services that could threaten a further shock or ban. This seems to suggest that, whilst the threat of market exclusion was sufficient to promote donor investment, it was not enough for strategic change at the level of the national quality infrastructure.

Another issue with shocks and bans is the way that the information about a problem or rejection at point of import is disseminated. It is noticeable that the system knowledge of bans notified under the various international systems is often very poor within the producing country. Dissemination of notifications is an important mechanism to encourage improvement and investment in quality infrastructure and it is often not part programme design. This was in particular mentioned as a problem in Ghana [3] but also an issue in SAARC [7] where notification authorities have been developed but outreach of notification information to firms not yet started. Besides slow communication between different authorities– one of the challenges is the lack of a reliable commercial registry that would allow the physically tracking of companies.

If shocks and bans can have positive effects, this does not mean that it is better to allow a country to enter a crisis such as temporarily losing its export market for a key commodity so that significant and rapid application of effort and resources to solving the problem occurs.

The alternative, which is the norm, is for just enough to be done to maintain access but not to deal with under-lying and strategic problems. Some strategic issues are difficult to address: for example separation of different functions within the Quality Management System (e.g. [1], [5c], [6] and [9]), and development of sound governance structures (e.g. [1], [9] and [6] to name only a few). In

formulating the necessary political capital to address strategic issues in the national quality infrastructure, the alliance of government and private sector is necessary and this seems to occur much more readily when there is a shock or ban. Under some circumstances, it might, therefore, be better to allow crises to occur than fend them off, although this view is unlikely to be popular.

Finally, there is an element of shocks and bans that falls into the risk column of project logic in that it can be outside the immediate control of the intervention. In the quality arena, shock in third countries can taint whole regions (e.g. the "Sudan Red" shock in India and bird-flu in China). Even elaborate and highly developed quality infrastructure struggles under these circumstances.

KSF A.2 Project strategy aligned with country context and needs

This KSF relates to matching project strategy and country context. Two key areas were identified:

(1) Technical/sector coverage

It is notable that only few projects had elaborated a stakeholder map (e.g., a comprehensive list of all stakeholders, their roles and responsibilities and relationships to the project and its goals). Equally few projects reallocated project resources according to the need found on the ground when the project implementation started (BSQP [1] in Bangladesh is an exception). There is evidence that, in some cases, technical coverage responded to donor's perception of their specialist interest or expertise (SECO in [6] and [9]). UNIDO staff complained that project identification and development time (funds) is so limited that it is not possible to conduct proper stakeholder analysis ([1], [6], [7], [9]) or to develop elaborate project proposals with inception phases. They also noted that donor agenda 'drift' over time means that alignment between phases and extensions to project, the 'new' agendas of donors and needs of the beneficiary country is often not possible.

However, [3] is a good example where UNIDO successfully used a limited first intervention to conduct a careful needs assessment. For one project [4], the needs assessment was done during an inception phase.

In several countries evaluations showed technical over-lap or redundancy. This means provision of capacity that already exists or which is already supplied by another aspect of the National Quality System. In Bhutan, analytical tools that were already present in other laboratories were provided for pesticide testing[16]. Other evidence of technical redundancy was found in [1], [5] and [9]. This points to the need for a much more elaborate technical mapping phase in future

interventions. It would be particularly important to map out public and private testing laboratories.

The SMTQ coverage that is appropriate for each economy is a factor of that country's size, the existence of difference productive sectors and national policy. There is a sense that some countries believe that, regardless of size, they need to have a full set of SMTQ systems as a mark of national pride and autonomy. Domestic provision of a particular SMTQ service may not be the most cost effective way of meeting the needs of the private sector and this should be considered at project design.

Whilst the need for 'doing things in the right order' is important for SMTQ (i.e. metrology systems need to be 'assured' before accreditation can be achieved) there may be scope for a counter-factual argument that, by insisting on having key elements in place at the centre of the NQS delays are caused at the periphery that impact on income and poverty. In the Maldives, investment in weights and measures infrastructure on the islands is not being supported until the national metrology testing laboratory is fully functional (e.g. accredited for the appropriate scopes). This is technically correct, but it could be questioned from a developmental stand-point because any normative metrology at the level of the individual consumer would substantially reduce the risk of unfair trading practices and therefore increase welfare.

(2) Developmental context

The specific socio-economic context of a country influences the attainment of project objectives. Industrialized countries with high per capita income generate sufficient demand to justify a large SMTQ infrastructure. On the other hand, Least Developed Countries (LDCs)[17] have low per capita income and therefore struggle to afford the elements that are also necessary to make SMTQ projects successful such as elaborate education systems, expensive infrastructure, complex judicial systems and large-scale industries. Some contributory factors are considered below.

(a) Cultural differences: Many norms and practices of modern international trade, and therefore quality and standards, have tended to develop among a small group of trading cultures and a limited range of languages. In many developing countries the culture of quality and standards setting tends to be one of 'control and regulation' rather than of an 'enabling environment for

[17] Countries satisfying all of the following criteria: a) gross national income per capita under USD 750 based on a three-year average, b) having a low Human Assets Index (nutrition, health, education and adult literacy), and, c) meeting an economic vulnerability criterion from an Economic Vulnerability Index that includes: unstable agricultural production, unstable exports, degree of dependence on non-traditional economic activities, having a relatively small economy, and, the percentage of the population susceptible to natural disasters.

businesses'. In Bhutan the lack of exposure to business and donor norms creates particular issues: it is not common practice to confront deviation from established practice. Formal (as opposed to social) regulation is almost unheard of.

(b) Language issues: International standards are often only available in a limited range of languages. Testing laboratories in Tanzania complained that manuals for complex equipment provided by UNIDO were in Italian, some of the manuals of testing equipment sent to French speaking UEMOA countries were in English. The Government of Bangladesh requires certain key project documents to be translated into Bengali which resulted in some confusion between different interpretations of project documents.

(c) General infrastructure: Several countries evaluated had a poor stock of domestic infrastructure. Examples include: poor rural roads ([6] [7]] dilapidated government buildings (([1] [5 a – b] [6] [7d] [9]) and inadequate education services feeding in suitable graduates ([6] [9]).

(d) Rule of law and corruption: Low salaries, poor human resource management and the absence of incentives clearly threaten the credibility of quality systems. The existence within the compliance chain, for example, of tests, inspections and certifications that can be purchased with *ex gratia* payments to staff whose salary and conditions of employment are inadequate puts pressure on those staff to supplement their income. A common reaction to a failed incentive structure (e.g. salaries that have fallen behind industry norms and are low in relation to the value of goods traded) is to increase regulation. This can lead to a viscous cycle of increased corruption (so called 'rent seeking'), followed by more 'rules' which open new rent seeking opportunities.

(e) Transaction costs: This refers to the direct and indirect cost of doing business. One businessman in Tanzania [9] complained that more that 20 agencies were needed to inspect his premises and provide him with certificates before he could operate. Simple business operations are much harder in some countries than others. For example, using foreign currency to purchase essential testing equipment and consumables can require a long bureaucratic process [5c]. Gaining release of incoming goods from port authorities (notably for example in the cases of Bangladesh [1] and Mozambique [6]) can be both time consuming and expensive.

(f) Stability and conflict: Politically stable countries are likely to build cohesive quality infrastructure more quickly than those marked by political uncertainty or internal conflict. In Bangladesh [1], for example, the hiatus in democratic rule in 2007 has led to delays in developing and passing laws. In Mozambique [6], a smooth democratic process took place in 2008, but all senior Ministry executives were changed resulting in a high 'cost' to build new relationships. Several countries covered by this thematic evaluation recently underwent long periods of political turmoil, civil war or bombardments [2a, 2c, 4, 7d, 8].

(g) Political and economic geography: Countries that are physically large [6] and culturally diverse [8] make unitary quality infrastructure challenging. A high

degree of delegation of government to the local level [6] adds to the complexity of national programmes while opening the potential for genuine local level dialogue with beneficiaries. The existence of regional networks is also a factor (see comments in D.2 on regional approaches).

(h) Availability of human resources (e.g. trained staff, consultants etc): Less developed countries have fewer graduates. Quality infrastructure needs technical staff of a relatively high calibre. This applies to both public and private sectors. Countries with insufficient candidates for laboratory jobs will probably also struggle to find suitably trained and experienced consultants. In the Maldives [7c] the domestic labour market is so small that locating and retaining specialist staff is a challenge.

With a few notable exceptions, the sample of evaluations represents a group of countries where doing business is challenging. This is reflected in the relative ranking of the countries in internationally recognised indices such as the World Bank Doing-Business Index (World Bank 2009) and the Corruption Perception Index of Transparency International (Transparency International 2008);

see Table 6.

Table 6: Comparison of difference ease of doing business indices

Country	Ease of Doing Business Rank (out of 183 countries)	Corruption Perception Indices Rank (out of 179 countries)
Bangladesh	119	147
Ghana	92	67
Lebanon	108	102
Cambodia	145	166
Laos	165	151
Vietnam	93	121
Mozambique	135	126
Bhutan	126	45
Maldives	87	115
Nepal	123	121
Sri Lanka	105	92
Tanzania	131	102
Cote d'Ivoire	168	151
Senegal	157	85
Togo	165	121

Source: (Transparency International 2008; World Bank 2009)

In conclusion, the findings of this evaluation confirmed the relationship between the relative development of an economy and its ability to successfully respond to quality related demands. SMTQ development assistance projects need to be aligned with country context and needs.

Evaluations generally found that UNIDO SMTQ projects were well tailored to the needs and priorities of partner countries. In Vietnam for instance, the project was specifically aligned to key national strategies, such as the Comprehensive Growth and Poverty Reduction Strategy (CPRGS) and the national quality

strategy. In Ghana, UNIDO covered three out of four intervention areas from component 7 (standards) of the Trade Sector Support Programme (TSSP). Several evaluations noticed a bias between alignment to expressed needs of counterpart institutions and those of enterprises. We also found examples of technical overlap and redundancy as well as developing capacity because of perceived strategic needs (e.g. various forms of accreditation boards).

KSF A.3 All elements of UNIDO "Three C" approach addressed

UNIDO "Three C" approach is based on the assumption that successful participation of developing countries in international trade requires three elements to be present: a competitive production sector, conformity to the requirements of international markets and connectivity to these markets (the so-called "three C's" approach to trade capacity building[19]). The approach is 'holistic' in that it has many dimensions, specifically: policy, governance, knowledge, information, skills and technology (UNIDO 2007:7). At least theoretically, it also deals with the full spectrum of economic agents and stakeholders.

UNIDO is mandated to cover the aspects of "compete" and "conform", while "connect" elements fall into the scope of UNCTAD, IMO and WTO. This evaluation focused on the "conform" aspect while looking at "compete" and "connect" as boundary conditions because these areas are complementary and necessary to reach the overall objectives of facilitating trade. Connect aspects and parts of compete aspects were in many countries not yet sufficiently addressed. For instance, interviews with enterprises during evaluations [1] [6] [7] [8] [9] suggest that the Market Intelligence element of Connect has yet to be achieved in any meaningful way in the countries evaluated.

In some countries, "connect" aspects were integrated into interventions implemented by UNIDO in coordination with the competent UN agencies. E.g. customs clearance and documentation was an aspect of Bangladesh [1] but implemented by UNCTAD.

Some key donors of UNIDO (e.g. SECO, the EU) actively design programmes that address TCB in a more comprehensive way, by calling on different agencies to cover selected aspects of the 3Cs in a coordinated way. This was sometimes challenging, due to coordination and synchronization problems.

[19] See for example UNIDO (2007). SPS compliance: A requisite for agro-industrial exports from developing countries. Vienna, United Nations Industrial Development Organization, UNIDO (2007). A measure of success: UNIDO services in trade capacity-building. Vienna, United Nations Industrial Development Organization.

“Compete” and “conform” aspects are closely interlinked. Evaluations revealed that UNIDO support in obtaining QMS certifications not only helped companies to conform to standards required by importers, but also contributed to increased competitiveness in terms of more consistent product quality and reputation. Obtaining QMS certifications and evidence of traceability for food products increases competitiveness of companies and serves not merely the purpose of compliance.

Many of the companies visited by the evaluators were in obvious needs to improve marketing-related aspects of their products beyond compliance with labelling requirements, namely product and packaging design. Surprisingly, the 3C approach seems to separate “marketing” aspects of competitiveness (mandate of ITC respectively WIPO for IPRs) from other “competitiveness” aspects. It also does not address the issue of access to finance needed for modernization of enterprises, another aspect that is crucial to achieve competitiveness.

The area of packaging provides a particularly clear evidence of the close link between “compete” and “conform”. Packaging is essential both under “compete” and “conform” aspects (attractive packaging adds value to products; compliance with packaging requirements is crucial for obtaining market access). The Lebanese Packaging Centre (LibanPack) met these demands well and in a comprehensive way. Comprehensive support in packaging-related issues, as provided by LibanPack, was in high demand and could become an integral part of future TCB interventions.

Problems in accessing long-term finance - another aspect of competitiveness - were of concern to many enterprises, in particular SMEs [UEMOA, Lebanon]. Access to finance could be covered in cooperation with specialized SME funds for developing countries or through involvement of UNIDO Investment Promotion Branch. Also, cooperation with SME development funds of key donors of UNIDO (e.g. SIFEM for Switzerland and NORFUND for Norway) could be envisaged. SECO intends funding future interventions under comprehensive joint-agency “trade-clusters”, which would be linked into beneficiary countries’ own development framework. SECO is in the process of preparing such sector-wide projects for Lao PDR and Tanzania.

Evaluation findings confirm that all “three Cs” are necessary for SMTQ projects to succeed and that integrated TCB projects work significantly better than “delivering” different aspects through separate projects. In the latter case, synchronization problems arose, as for instance evidenced by the late start of the PSD activities in UEMOA.

The new UN trade cluster approach aims at facilitating coordination of inputs between UN agencies towards a more holistic approach of trade-capacity development.[20] The comprehensive TCB projects in Mozambique and Pakistan funded by the EU, with UNIDO playing the role of a lead implementation agency, put this cluster approach into practice.

KSF A.4 Effective external and internal coordination

This KSF looks at how donors, UN agencies and branches within UNIDO have coordinated to avoid duplication of activity and if possible create synergies among projects at the planning stage. To achieve the "three Cs, i.e. Connect, Conform and Compete", UNIDO must collaborate with other UN Agencies, namely the United Nations Conference on Trade and Development (UNCTAD) and the International Trade Centre (ITC).

Sometimes, SMTQ-projects executed by UNIDO are an element of a more comprehensive programme of a donor. As an example, SECO's programme builds upon a set of complementary interventions covering a wide array of areas that are expected to contribute to poverty reduction through economic development in a synergetic way. SECO's trade-related cooperation in Vietnam for instance includes trade promotion capacity (covered by the ITC), trade-related intellectual property rights (covered by the Swiss Federal Institute of Intellectual Property), compliance with labour standards (ILO), competition law (addressed through the Swiss Competition Authority) and resource-efficient production (through UNIDO national Cleaner Production Centre). The SMTQ project executed by UNIDO covered one element of this comprehensive portfolio and was expected to link to other projects, for instance through implementing joint-activities.

The same applies to intra-agency coordination (where different branches or units of UNIDO implement in a certain country). An attempt to achieve a more coordinated approach in developing the different capacities needed for spurring industrial development were the UNIDO Integrated Programmes.

(a) Coordination with other players

While in most countries, well functioning donor coordination mechanisms or -frameworks are in place, in others they exist but are not effective (or active). The question is how to harmonize interventions with those of other "technical assistance service providers" active in the beneficiary country/region and to orient projects' objectives towards those defined in national development plans

[20] Concept note for UN-CEB Trade Cluster Approach, Geneva, April 2008

(alignment). There is increasing pressure for donors to 'buy-in' to sector wide approaches and indicative frameworks [1] [9]. UNIDO has moved towards responding to this trend by for instance contributing to SECO's new "trade clusters" in Lao PDR and Tanzania.

Many linkages and synergies defined in the project documents were inspired by the donor who provided also funding to those non-TCB projects [2 a-c, 5 c, and 9]. The key problem was that linkages were not always relevant to both projects, they were added ex-post and did not fit into already agreed implementation plans and budgets of non-TCB projects, and not formalized. Few of them materialized in practice [5c] [6] [7]). One project was explicitly designed as complementary to interventions of another donor [4] – EU – and coordination at the field level was assured by the National Planning Commission (NPC). Similarly, in Vietnam, the international relations division of the local counterpart (General Department for Standards, Metrology and Quality, STAMEQ) played an important role in coordinating the different SMTQ interventions in the country (Japan, EU, Asian Development Bank, NORAD and SECO) at the planning stage. The two UNIDO SMTQ projects (NORAD, SECO) shared the same project manager and national project coordinator, which facilitated coordination. The same model was applied in Ghana (SECO, West African Quality Programme).

(b) Inter-agency coordination

Some evaluations covered projects in countries, where "One UN" was under implementation[21], some not. None of the projects within the sample was however specifically designed as a component of a "One UN" country programme. Also, none of the evaluations covered a project where a formal coordination mechanism between UNIDO and other UN-Agencies (outside "One UN") was in place[22].

Box 7: Coordination within UNIDO projects in Bangladesh

In the case of Vietnam, [5 c] was well coordinated with the SECO-funded national project for Vietnam. Design was complementary and during implementation, synergies were sought and successfully achieved, mainly in terms of sharing expert resources. Those synergies were already built into the design. In Bangladesh the evaluation found coordination weaknesses between the role of the Chief Technical Advisor in one UNIDO project [1] and another [7a], and among components of the same project implemented by different agencies [1].

A number of synergies with other agencies (e.g. ITC, UNCTAD) were envisaged [1]. Those are mostly complementarities (in terms of objectives that mutually support each other). Actual coordination or common activities often did not take place (see Boxes 7 and 8). In [5], almost none of the intended "synergies" materialized because they were not formalized in agreements.

[21] This was the case in Vietnam and Tanzania (whereas the projects in both countries were designed as stand-alone interventions, not as part of the UN-country programme).
[22] A project where UNIDO acts as coordinating agency among several agencies is however currently under preparation in Mozambique. Agencies involved are UNCTAD, ITC and UNIDO.

Other issues identified included: It is not uncommon to find several donors being approached to try to achieve a particularly pressing compliance aim [7b – pesticide testing] and new donors repeating the failed efforts of previous ones ([1] and [7a] – ISO 65 manuals).

Box 8: Links between UNIDO projects in the Mekong Region

In Vietnam, the evaluators found that synergies did materialize between the SECO- and NORAD-funded SMTQ projects [5c]. Furthermore, there was limited cooperation with a SECO-funded Cleaner Production Project (training in the area of ISO 14000). While in one case (in Vietnam), UNIDO seized the opportunity to create an additional link to a project supporting rural entrepreneurship ex post, envisaged synergies with another UNIDO-executed project in the area of SME development did not materialize. The evaluation of the national SECO standalone project in Vietnam highlighted the active role of the UNIDO Country Director as one of the reasons for successful project coordination. In Mozambique [6] and Tanzania [9], synergies to UNIDO rural industry development projects were envisaged, but there was no evidence that they materialised. Possible links between the SECO-funded CP-Projects in Lao and Cambodia with [5 a –b] in working with SMEs were neither envisaged not practically sought, although in the case of Cambodia, both the CP and the SMTQ projects are located within the same government office.

4.2 Theme B: Long term planning

KSF B.1 Appropriate time frame and size of projects

This KSF looks at whether the type, scale and length of interventions were appropriate to meet the specific development needs of the beneficiary country. While it is clear that project implementation is more challenging and will take considerably more time in LDCs, it may be challenging to make the right choice of type, scale and length of interventions. For instance, is it better to have one large/long intervention or several targeted smaller ones? Interventions vary in scale and type, ranging from say, the international procurement of key equipment to full-scale projects supporting infrastructure, local and international training, full-time technical assistance teams etc. All of this often depends on aspects that are not under UNIDO or the beneficiary country's control, such as funding cycles, budgets and specific strategic preferences of the donor.

In many countries UNIDO intervention to key NQSs has been over a very long period of time. Which is better: long interventions or short ones? Is a hiatus in support beneficial because it forces countries to invest or harmful because progress gained is lost? The latter seems to be the case, as partially evidenced in UEMOA. What can be said about the typical time period for an intervention project (say 3 years): is this too long or two short to achieve developmental aims? The evidence suggests that approaches to strengthening NQSs needs seem to

require a long-term planning and commitment, beyond the limited time-frame of a single project phase.

The arguments against short-term interventions are that they are insufficient to attain the immediate objectives in the project logic ([1] [6] [9]). An indicator that projects are not long enough is that they get extended or a second phase is developed using the argument that the objectives in the first phase were not completed in the time given ([1] [5] [7] [8] [9]). It should be noted that follow-up projects also covered new issues.

The stages involved in establishing a basic national quality infrastructure are numerous and time consuming. The likelihood of achieving this within the typical duration of projects (3 – 4 years) is slim, especially if there is a need of legal changes or establishing physical infrastructure.

Some of the institutions evaluated have received multiple external donor inputs over many years ([1] [9] [5c][26]). The cumulative impact of these interventions is hard to gauge and this might be the subject of further research.

Are larger projects inherently better than smaller ones? The evidence suggests that smaller projects suffer from 'over-stretch' e.g., resources spread too thinly to have any impact [6] and inadequate momentum to promote genuine change [7a]. Some small project work well when ownership is high [7b]. Small projects get fewer supervision visits, are unlikely to have a full time Chief Technical Advisor [7] and tend towards having weaker governance structures ([7a]).

Is it more effective to have a number of small "rolling" interventions over a long period of time, or should there by one large project to get SMTQ going followed by a hiatus? UNIDO has a long history of intervention in some countries [9], [7d] and in these there is anecdotal evidence to suggest that the organization is seen as a source of support for items that are too expensive or too 'luxurious' for core government budgets (or time consuming to procure through 'difficult' and stringent government procurement systems [1] [9]).

The average project implementation period for the evaluations under review was 40 months. In many cases, project evaluated were second phases [5] [7] or the result of multiple phases [8] [9]. Donor investment horizons (e.g. maximum project implementation time) for SMTQ seem to be typically about three years. For those projects whose outputs included accreditation it is clear that three years is not sufficient [1] [2] [5] [6] [7] [9]. A number of projects were building NQS from first principles starting with legal and physical metrology [6] [7b] [7c].

[26]Vietnam: EU, Japan, UNIDO, the Asian Development Bank, Germany and the Asia Productivity Organization (APO) provided funding to STAMEQ; UNIDO intervention was well coordinated.

In particular in LDCs with a very low baseline, it is not possible to develop all elements of a comprehensive NQS from scratch within three years, so longer donor horizons are needed for successful SMTQ projects. The same applies where newly established institutions need to achieve technical and financial sustainability [Lebanon: LibanPack - where the problem was accurately identified at the planning stage].

There is strong evidence that some countries have successfully 'managed' a series of SMTQ interventions by different donors. For example, Sri Lanka [8] and Tanzania [9] have received UNIDO support on and off for decades interspersed and sometimes paralleled with other donor support. This 'patchiness' of support over a long period of time without overall coordination can result in duplication, resource redundancy and insufficient resources to meet the minimum compliance needs though it should also be noted that without this 'minimum' background support many key institutions simply would not have functioned.

KSF B.2 Project embedded in wider national planning context

The first challenge of long term planning for projects is alignment to national policies and strategies. Such policies and strategies are often not in place at the onset of interventions and need to be drafted first [6] [7b]. A range of different and often overlapping sectoral and regional planning approaches are exhibited by the evaluations under review. Most projects fit into national plans of one kind or another [1] but in some cases national plans, policies and legislation can cause projects to fail [9] (see Box 9). Where national plans do not exist [7b] they were by and large proposed.

Box 9: Planning conflicts

In Tanzania delays and changes to much needed changes and updating of the national quality legislation became embroiled in a territorial dispute between different government departments concerning who was responsible for implementing which element (and who would get the required resources – including donor support). This was noted in the evaluation as an important reason for the project not achieving its aims.

In some countries, donors align themselves to comprehensive, overarching national development strategies (such as for example the Comprehensive Growth and Poverty Reduction Strategy, CGPR in [5c]). In another country [2], UNIDO covers two entire components of a Trade Integration Strategy. In the case of [2], the project aligns itself to a regional policy framework.

Formal communication among SMTQ initiatives in countries tends to be limited to inviting donors to project steering committee meetings [1], [6], [9]) but this is not applied universally (no 'outside' donors attended steering committee meetings in

[28] This is also validated by SECO's experience in the Mekong Region. See Keller, D, "Best Practices of Project Formulation and Implementation for Trade Capacity Building Projects, Based on an Analysis of the Swiss Trade Cooperation Programme in the Mekong Region", presented at conference on re-Visiting UNIDO TCB Approach, Schloss Wilhelminenberg, Vienna, 2009.

Bhutan [7b] for example). An example of emerging best practice that combines donor governance with private and consumer involvement and inter-government communication is the 'Quality Forum' concept being promulgated in Nepal [7d] and involving the UNIDO project there (though experience with this seems to be mixed so far). In Lebanon, coordination between UNIDO and the EU SMTQ projects was facilitated by the same person acting as National Project Director for both projects. In Vietnam, this role was informally taken up by the local counterpart (STAMEQ, both at the planning and implementation stage, see also KSF A.4 above).

In Tanzania [9] some donors (but not those funding through UNIDO) have committed to fund a single Trade Integration Strategy which includes SMTQ as a key constraining factor to market access.

It is probably too early to say whether these integrated planning approaches are successful. However, inter-Ministerial coordination in individual countries is likely to have an impact in the area of SMTQ especially considering the huge range of issues that have to be tackled and the location of competent authorities for different aspects market access in different line ministries.

The evaluation in Tanzania [9] recommended that future SECO assistance in the area of SMTQ should be contained within the integrated framework to prevent the negative impacts of previous piecemeal project assistance. This trend towards SMTQ being an element of an integrated approach is likely to be more widely adopted in future.

4.3 Theme C: Efficient implementation mechanisms and management

C.1 Project management tools utilized

This KSF calls for good practice in Project Cycle Management (PCM) and Results Based Management (RBM) during project planning, implementation, monitoring and evaluation. The development, use and regular update of the logical framework is the key to transparent adjustment and risk management. Assumptions and risks relating to the respective objectives (rather than to the entire project) should be identified and assessed and measures identified how to cope with them.

The clear definition of the causal chain ("intervention logic") and the definition of indicators with baseline data are key to assess progress and impact. The identification of impact pathways can be challenging in the SMTQ area and is not yet fully explored (see Box 10 as an example of poverty impact and how this relates to project design).

Most project evaluations criticise logical frameworks because of poorly formulated Objectively Verifiable Indicators (OVI) (see Table 5). In most cases indicators were not specific enough, not time-bound and means of verification were not available. No projects evaluated (with the exception of SAARC [7] to some extent) had used the logical framework to report on progress. At the time of evaluation none of the projects had revisited and changed OVIs.

Box 10: Project design based on the needs of poor producers – evidence from Sri Lanka

From the Sri Lanka evaluation [8] contrasting findings emerge with regard to the potential impact of SMTQ interventions on poverty reduction. A positive "trade poverty nexus" can be observed for the garment sector which exports sophisticated products to sophisticated markets. In this sector, the work force benefits from functioning labour legislation and consumer awareness for voluntary social standards. The situation for tea is different. Poverty among tea growers persists despite economic growth because the work force lacks empowerment and most of Sri Lanka's tea exports are oriented towards emerging markets with limited consumer awareness for social standards. In the fish sector an increasing number of fishermen are benefiting from increased exports but the vast majority of fishermen work for local markets and remain disconnected from quality improvements. The evaluation concludes that, in order for poverty impact to occur, the intervention theory of an SMTQ intervention and its logframe need to be designed around the expected poverty impact, bridging the gap between the needs of the poor producers and the targeted market opportunities. The key requirement is to demonstrate the plausibility of the hypothetical causal chain, the necessary assumptions and the likelihood that these assumptions will actually materialize.

Self-evaluation reports (SERs), assessing relevance, effectiveness, efficiency and sustainability were not available under any of the projects under evaluation.

Regular and accurate progress reports are the basis for UNIDO accountability to clients, i.e. donors and beneficiary governments. Ownership requires that project monitoring and reporting (including financial data) is shared and endorsed by counterparts (rather than unilaterally produced by UNIDO). In several countries senior official in host organizations complained in steering committee minutes or verbally to evaluators that the UN financial and physical reporting system did not allow them to judge project progress and this was felt particularly during the final third of projects when realignment of investments was going on [6] [7b] [9].

It seems to be a specific UNIDO problem that some of its project management tools differ from those required by its donors and this can lead to confusion (see Box 11).

Box 11: Whose project management tools to use?

In Bangladesh [1] the evaluation was given an EU logical framework as part of its terms of reference, but on meeting the project Chief Technical Advisor found that a completely separate and largely different logical framework prepared by UNIDO was being used for project management. In this case the evaluators were contractually obliged to evaluate the project against the EU logical framework despite the fact that no member of the UNIDO implementation team had been using it.

There is much evidence to suggest that, during the period when most of the projects under evaluation were designed, the project planning culture in UNIDO has been focussing on 'implementation figures', activities and not outcomes or impact. UNIDO desk

officers reported that there has been “usually” insufficient time or resources to properly formulate projects or to revisit planning tools by an inception phase.

Nevertheless, the necessary internal know-how for state-of-the art project management seems to be available with the exception of appropriate tools for result-based financial management. The latest update of UNIDO “AGRESSO” software provides a functionality for output/activities based budgeting but this functionality was not yet implemented when the projects under evaluation were planned. Several projects started however using their own software solutions (Ghana [3], Lebanon [4]).

The evaluations used under this thematic evaluation mention the following good project management practices:

- In SAARC [7] an attempt was made to include baseline data into the logical framework.
- In Ghana [3] and Lebanon [4], an activity-based budget, which is linked to UN-budget lines, was established. Both projects reported on expenditures by either activity [4] or objective [3] and UN-budget lines, but the two reports were not linked together.
- Mozambique [6] included an extensive, detailed risk assessment in its inception report but this was not adopted by the beneficiary.
- Several projects established meaningful inception reports [3, 4, and 6].
- Lebanon [4] undertook a survey among enterprises on their packaging needs.
- In several projects, implementation plans were consistently updated [2, 4]. UEMOA [2] uses specific project management software. In others, this was not the case (e.g. Mekong [5]).
- The evaluators were presented with a self-evaluation based on the logical framework in Tanzania [9].

In conclusion, good PCM practices are available within the TCB branch but not yet consistently used. There is a clear trend towards uptake of RBM good practice, which is a sign that recommendations of evaluations are being implemented.

KSF C.2: UNIDO internal coordination

In UNIDO, the subject area of SMTQ comes under the core competency of the TCB branch. However, a number of other branches such as the ones dealing with Agro-industries, Private Sector Development and Industrial Policy were also involved in implementing some of the projects under evaluation.

In the case of Bangladesh [1] the SMTQ component was conducted by a project manager from the TCB branch who had also the overall lead of the entire project

while two project officers from the Agro-industry branch conducted the sector-specific textile and fishery components. In this case cooperation between these two branches was smooth and efficient. However, in the same country, coordination between the two SMTQ projects run by same desk officer was not as good as might be expected (see box 12).

Box 12: Synergies between UNIDO projects – an extreme example

Two of the projects evaluated were based in the same Bangladesh Institution, the Bangladesh Standards and Testing Institution (BSTI). One project [1] had a full time Chief Technical Advisor (CTA), the other was managed by the UNIDO desk officer [7a]. The evaluation found, in interviewing the CTA of [1] that he was unaware of [7a], that he had not seen the project document and was not involved in any way with implementation despite significant physical proximity and technical overlap.

Mozambique [6] has been an example of an SMTQ project where the agro and food related part was implemented by the Agro-industry branch and the TBT related part by the TCB branch. In this case the cooperation between the two branches was relatively poor. UNIDO has drawn the lesson that such splitting of an SMTQ project into an Agro-industry and a TBT part is likely to create efficiency losses and seems to have discontinued such practice.

In certain cases synergies may also exist with projects of the Environmental branch (supporting Cleaner Production Centres). One evaluation found that opportunities for synergies between TCB and CP Divisions had not been exploited [5c] but in others this had been addressed [5a in terms of ISO14:000 courses] [5b in terms of general coordination]. The presence of a UNIDO Representative in the beneficiary country seems to have significantly facilitated coordination.

KSF C.3 Procurement and other UNIDO services efficiently provided

This KSF considers the provision of internal UNIDO project implementation services, such as procurement; recruitment of local and international consultants; and the organization of training and capacity building services.

(a) Technical expertise

For most of the smaller UNIDO projects the Organization delivers its TA through short-term experts managed by the HQ desk officer [3]; [4]; [5]; [8]. Sometimes co-management by UNIDO country staff and the desk officer has been applied [6] and [9]. For the bigger projects such as [1] a long-term expatriate CTA has been managing a team of short-term specialists. Smaller projects such as [3] and [4] used part-time TA's.

For regional projects such as [5] and [7] itinerant CTAs are being used in order to save resources by sharing one CTA among several national projects. In the case of [7] this regional CTA was hired on as 'honorary' basis. While saving financial resources, this approach was found to have shortcomings with regard to accountability and transparency. Sharing one CTA among a too large number of countries (e.g. UEMOA [2] with 7 countries) was found to be questionable.

Issues that can affect successful and sustainable capacity building include: whether the host country has provided a counterpart at all; whether the level of the counterpart is appropriate (too high = not enough day to day contact; too low = lack of "weight" to initiate and drive change) [9]; whether staff turn-over within counterparts is reasonable (frequent changes of persons projects work through limit impact) [9] and whether the CTA is physically located in the same organization and preferably in the same building [6]. The latter does not seem to be standard UNIDO practice. Several evaluations recommended that the long-term CTA should be embedded into the partner institution [1] [6] with a view to sustainable capacity building.

Most evaluations observed that the quality of short-term specialist TA supplied by UNIDO was high. One reason for this good quality performance could be that UNIDO project managers are rather flexible in identifying and contracting experts directly as opposed to complicated international tendering or so-called 'framework' contracts similar to the ones used by other organizations.

On the other hand, UNIDO staff complained that donors or UNDP rules placed too limited ceilings on consultancy rates that did not reflect local market conditions and the specialist nature of the work. In at least one of the countries [3] hiring appropriate technical specialists at the fixed rates was simply not possible.

Other issues related to the delivery of TA include: good experience has been made with combining long and short-term TA [1] [5]; difficulties occurred in finding specialist CTA's [1] [6]; regional advisers encountered problems in meeting the needs of the different countries in the region [2] [7]; dedicated support staff is important to reduce the burden of the CTA in dealing with in-country bureaucracy [6] [9].

(b) Equipment procurement

Laboratory equipment for testing and metrology is expensive and often only available from a limited number of suppliers. Proper procurement requires a thorough assessment of demand and supply; precise technical specifications; efficient management of the procurement process; efficient importing and commissioning of the equipment; and ensuring maintenance of the equipment.

For many countries, local procurement of SMTQ equipment is difficult because of they lack specialist knowledge and strict tendering mechanisms. UNIDO procurement is, therefore, a highly appreciated element of project delivery packages.

However, customs arrangements and taxation issues were problematic in a number of cases [1]; [6]; [7a] and [7b]. The sequence of arrival, commissioning and training is crucial. Equipment often arrives too late in the short project cycle

to allow full commissioning and on-the-job training during the project period which can lead to demands for extensions and new projects [e.g. 6].

The appropriateness of the equipment supplied is a technical strength of UNIDO. However, evaluations suggest that laboratory staff in developing countries tend to be biased towards purchasing over-sophisticated equipment. Several evaluations noted that technology was requested not because of the anticipated market for the related services, but because the particular equipment was considered necessary to demonstrate the status of the laboratory [e.g. 9].

In the case of delivering roller-weights to the Weights and Measures Agency in Tanzania the evaluators challenged UNIDO unilateral decision not to supply the requested equipment. Other issues raised in the evaluations related to equipment procurement include: (a) inadequate involvement of those maintaining the equipment in the procurement process [6], (b) difficulties with using the services of the United Nations Development Programme (UNDP) to undertake equipment clearance [9].

The evaluators recognize that internal procurement and human resource services are generic and beyond the control of TCB staff. However, as documented by the current UNIDO initiative for "change management and organizational renewal" these services are of overriding importance for implementation efficiency. Therefore, the evaluation team conducted a series of interviews with project managers and the UNIDO procurement and human resources staff. The results are summarised in Table 7 below.

Table 7: Issues arising from interviews with TCB and UNIDO service providers

Issue/problem	Impact	Solution
Equipment		
Difficult to attract bidders for specialist equipment	Delays in procurement and equipment supplied that is not preferred by beneficiary	Flexibility in procurement rules for highly specialised equipment
Equipment training often fails	Beneficiaries do not use the equipment provided	Training in working lab shortly before equipment procurement; combining expert missions with delivery of equipment.
		South-South training and lab mentoring
		Institutionalisation of training (and training records)
Capacity to use lab equipment often quickly lost	Beneficiaries do not use the equipment provided	Post-capacity building sustainability plans
Weak dialogue of project management team with UNIDO procurement group	Procurement delays and mistakes	Better and institutionalised role for procurement in project cycle.
	Workshops and training events under/over-subscribed	

Issue/problem	Impact	Solution
	Increased project manager workload	
		More involvement of UNIDO service providers during design phase
No contact allowed between project manager and suppliers during tender, and procurement	Delays, missing parts, slow correction of errors	Better and institutionalised role for procurement in project cycle.
Legal preconditions in-country (especially customs clearance)	Delays and unexpected expenditure	Preconditions resolved during project design
		Greater involvement of Resident Reps and UNDP in ensuring host privileges
Dependency on UNDP for procurement	Delays, unexpected expenditure and mistakes	Review UNDP/UNIDO working relationships
Procurement takes a lot of project managers time	Reduces time for other issues	Increase delegated authority to procure to Euro 50,000
		Allocate more SMTQ specialists to procurement e.g. study tour organiser
Changes to procedures frequent and unexplained	Delays and mistakes	Better and institutionalised role for procurement in project cycle.
		Include procurement plans in project cycle (design/inception)
Procurement manual and TC manual not aligned	Misunderstandings and delays	Review manuals
		Intensify regular training to TCB on procurement
Human resources		
Complex and inappropriate contracts for experts	Problems with recruitment and retention of the right expert	
No systematic assessment of candidates for key positions (selection based on CV only)	Person recruited is not the right match for the position (personality traits, “fit” not assessed)	Failure to perform well, high cost related to staff change.
Expert fees set arbitrarily	Discord between fees set and market rates leads to failure to supply	Conduct a comprehensive analysis of remunerations paid for technical experts as compared to rates paid by other donors and the private sector. Based on this, revise salary schemes as appropriate. Expert rates should be determined according to market rates for a certain task to be performed and not primarily the background/age of the expert.
Table of agreed fees outdated – does not reflect new exchange rates	Failure to supply	More regular updates
Finance		
High staff turn-over in finance	Difficult to develop working-relationships	
Variation between finance staff in rule interpretation	Delays and misunderstandings	
Hard to negotiate rule deviation	Delays in “difficult” countries e.g., Iraq	

Issue/problem	Impact	Solution
Too much bureaucracy and poor change management	Delays, increased burdens on project managers	
Inadequate financial decentralisation	Delays, loss of opportunity, inefficiency	
Controls/rules unrelated to efficiency gains	Increase burdens on project managers	
Some rules appear petty., requirement for pro forma invoices for small project expenditures (fuel, telephones, workshops, meetings)	Increase burdens on project managers	Review and correct
HQ – Field Administration		
Field administrators issue local contracts	Delays	
Field – local UNDP relationship often unclear	Delays	UNDP rules at local offices should be available on UNIDO intranet
Poor UNIDO-UNDP local coordination	Delays, mistakes	Nominate UNDP national focal point for each country
No UNIDO administration staff in the field to follow-up local project issues	Delays, mistakes and increased burdens on project managers	Consider appointing/reassign UNIDO admin staff to field as appropriate or delegate parts of this work to local project coordinators.
		Assign some of project overheads to field administration

Source: individual interviews

KSF C.4 Field fully empowered

In keeping with UNIDO rules, most projects are centrally managed by a project manager at UNIDO headquarters. Counterparts are consulted, but not formally involved in operational decision making. Evaluators found, however, different degrees of counterpart involvement in decision making and delegation to the field.

Delegation of financial authority to field officers and CTAs is not a norm in UNIDO. This leads to inefficient day-to-day implementation because even minor decisions require HQ agreement. However, in some of the cases, recent trends seem to demonstrate that there is for improvement even within the existing UNIDO rules.

In Ghana [3], the National Project Coordinator (NPC) fulfilled an important role in technical management of the project. He also seems to have the lead in coordinating technical input at the field level and in organizing local events. Although he is not involved in administrative project management, he has been recently granted a very small advance for recurring expenses (car fuel and stationary).

In Lebanon [4], the Project Manager at HQ, although formally responsible, delegated most of the day-to-day administrative and technical management to

the National Project Coordinator (NPC) based at the UNIDO Office who took *de facto* the lead in implementing and coordinating the project. This included liaising with the donor and local counterparts and stakeholders while the Project Manager, the part-time CTA, and the UNIDO Representative provided technical and administrative back-stopping. This freed capacities of the Project Manager to focus on strategic issues; coordination with different UNIDO service departments at headquarters; trouble shooting; quality management and monitoring of results as opposed to "micro-management". The pragmatic solution applied in Lebanon is compliant with UNIDO rules and can be considered as "best practice" within all projects evaluated.[28] It shows that UNIDO rules do not necessarily prevent delegation to the field.

As regards counterpart involvement in decision making, counterparts were in general consulted for equipment procurement and had their say in assessing CVs of proposed international experts. In Vietnam [5 c], the NPC was actively involved in organizing local activities in the country – in cooperation with a very active UNIDO Representative (UR) who was highly supportive in resolving administrative issues. In Cambodia and Lao PDR [5 a – b], the CTA was the author of the implementation report, the main focal point for counterparts and managing day-to-day aspects of the project. In parallel, there was communication between counterparts and the Project Manager in HQ and occasionally with the UNIDO representative [5b]. UNIDO did not communicate through one channel and the functions of CTA, Project Manager and UNIDO representative was not always clear to counterparts.

The regional UEMOA project [2] encountered administrative problems that relate to the existence of a regional project management unit (based at the UEMOA secretariat) in parallel with NPCs in all participating countries. Even under the conditions of this heavy and double-layered administrative structure, some of the NPCs were very active and took the initiative to add value to the project, e.g. in Cote d'Ivoire [2a] by arranging a TV broadcast on the importance of SMTQ. In Senegal [2b] the Steering Committee was split into working groups that produced sensible recommendations on how to achieve project objectives at the local level, which can be considered as a best practice.

We draw two conclusions from this. Firstly, the projects evaluated were developed under the principles of co-management and co-ownership of project results, but there is no established mechanism for joint-decision making with partners. Secondly, delegation to the field varies, although all projects apply the same UNIDO rules. While in one project, the project was de-facto "managed" by the NPC, decision making power was centralized at Headquarters in other projects. Projects with sufficient delegation of decision making power to the field worked significantly better than those with centralized decision making. It seems that this is less a result of UNIDO rules than of appropriate delegation of

responsibilities to the project, while focusing on controlling key risks, coaching, strategic guidance etc.

KSF C.5 Practical implementation issues addressed

The thematic evaluation shows that a key to success in projects implementation is often practical or 'day-today' issues that threaten the conversion of project activities into outcomes.

Box 13: Overambitious targets

There is a potentially important relationship which may be over-looked in project design. By focussing on the perceived and tangible end-results of NQS (e.g. accreditation) in recent project designs, ([6], [9], [7], [5a – b], UNIDO is, potentially, aiming too high and therefore failing to meet its targets. Rather than adjusting the targets, project managers tend to seek extension to the projects. Accreditation itself as a target is not overambitious since this is embedded in the WTO TBT/SPS agreements. However, laboratories can only get recognition and support exporters (e.g. the outcome) when they comply with ISO17025 and achieve accreditation. Projects should be designed in a way to allocate sufficient resources and time for this outcome to be achieved.

Sometimes targets are too ambitious (see Box 13, risks not fully assessed or assumptions proven wrong. It should be noted that many of the changes made during implementation were not based on changes in the country context, but more narrowly to developments of the project context (staffing issues, new priorities, other donors covering parts of the planned output etc.) or to experience gained during implementation.

Changes were also made because the original budget was not sufficient or because of implementation delays [4], [5], [6], and [9]. Other reasons for changes were that assumptions (e.g. on counterpart contribution, physical infrastructure) did not materialize [Mekong, Ghana].

Examples identified include:

- Local payment and per diem norms limiting participation [1] [9];
- Double payment of counterparts [9], experts that have not completed their work – not discovered as counterparts not consulted [5b], equipment providers not paid as agreed and those subsequently refused to complete training [5b];
- Hiring local implementing agents ("national consultant") that end up implementing the project [6] [9];
- Distance developing between TA and counterparts due to personality problems [9], or wrong physical location [6];
- Inappropriate level of local expert salaries and remunerations for local UNIDO-staff (far below the rate other donors or the private sector pays) jeopardize UNIDO ability to attract talents; and,
- Slow recruitment process for staff – a reason many activities are delayed.

4.4 Theme D: User-orientated and systemic approach to NQS development

KSF D.1 Conflicts of interest and fragmentation of NQS addressed

This KSF was identified in three areas: (a) overlap, redundancy and conflicts of roles between different stakeholders and SMTQ institutions; (b) systemic deficiencies and conflicts of interest within partner institutions and (c) confusion or conflict between domestic and export quality infrastructure particularly with respect to food safety. These three issues are considered separately.

(a) SMTQ institutional fragmentation and conflict

The competences for different aspects of NQS often lie in different host bodies within countries. For example, issues associated with SPS related market access or consumer protection usually falls within the remit of Ministries of Agriculture. Testing and standards authorities commonly come under Ministries of Trade and Industry. The location of these institutions, competent authorities, and various private public sector bodies is not consistent between countries but has usually evolved from their political and economic history.

Designing programmes and projects within the constraints of their locations, donor desires and traditional 'ties' to certain bodies, has aided a culture of 'divide and rule' among recipient countries and client institutions, which may have contributed to a 'silo mentality' (e.g. working alone rather than in a collegiate manner) in many recipient countries. The funds are rarely available for impact in all aspects of NQS, so UNIDO 'focuses', conscious of the risk of spreading too thinly within resource and time constraints.

In the past, different parts of UNIDO tended to have natural associations with particular government ministries in a country particularly in agriculture and industry. The choices of which institution that UNIDO shall work with often seem arbitrary. In Tanzania, for instance, UNIDO has always worked with the Tanzanian Bureau of Standards, Testing and Inspection so this is the 'natural' location of projects.

The most notable dichotomy is between all aspects of food safety and national testing and conformity. In Tanzania, for example, UNIDO have traditionally supported the TBS, but other donors have helped develop the Food Testing and Drug Agency (FTDA). The evaluation noted serious, project threatening, conflict between these two bodies.

In Bhutan, the evaluation noted that the issue of future conflict between the National Standards body and the National Food Quality body was a potential problem for the future not being addressed by project design.

(b) Systemic conflicts of interest

The need to separate functions, such as accreditation from certification, and thereby avoid bodies or staff members having conflicts of interest (e.g. setting standards and inspecting for contravention of standards) is an important part of developing a credible NQS. In particular in transition economies, examples of accreditation, certification and consulting under the same government office can be found. Also very frequently, consulting and certification of QMS are performed by the same organization or by two different organizations under the same government office. Another area is standard setting and enforcement of technical regulations. In many countries, government management functions (control, inspection) and service provision are performed by the same office [1]. All of this leads to poor and not internationally recognized certificates issued by those bodies.

In many countries the legal and institutional basis for SMTQ is a colonial hangover or was developed during the 1970's when policy remedies were often centralist and mechanistic (e.g. not orientated towards the demands of the market but feeding the needs of the state). In developed economies, SMTQ legislation and policy has moved towards voluntary standards and clear separation of function to prevent conflicts of interest. Many developing countries still see standard setting as a controlling arm of the state rather than an enabling environment for business. The measure of this is the presence of large numbers of mandatory standards and product licenses (e.g. [1] [9]).

(c) Conflict between domestic and international quality infrastructure particularly with respect to food safety

This KSF highlights a risk that, by focussing on export food sectors and ignoring domestic food safety SMTQ projects might promote a dualistic domestic food safety structure: one that complies with the high standards required by developed economies such as the EU, and another that accepts food safety risks in return for cheap food on the local market.

Several examples of this phenomena emerged from the thematic evaluation. In Mozambique [6], the food safety chain for export shrimp is completely divorced from the domestic shrimp value chain. In Tanzania [1], shrimp products that do not meet European Commission (EC) requirements are 'down-graded' and sold in the local market.

Developing economies face a potential moral dilemma in respect to meeting export compliance demands and protecting their domestic consumers. Control of sub-standards and hazardous imports is, potentially, a proxy indicator of a countries determination to protect its domestic consumers and this has become

highlighted in recent food safety scares. Some of the more recent UNIDO projects, in particular the ones supported by NORAD, are tackling this dilemma by including components dealing with domestic food safety issues.

KSF D.2 Regional approach envisaged and used

This key success factor looks at whether the use of regional approaches (one project for several countries, or one project for one regional body) added value or not and why. Regional approaches are often used for countries that are part of a regional political or economic framework (e.g. SAARC in South Asia).

The expectation is often to strengthen those cooperation frameworks in a certain field and to promote exchanges among member countries (South-to-South). Regional approaches for projects are also seen to create economies of scale and scope within a project. They tend to facilitate resolving problems that can only be addressed by a common response from a group of countries (e.g. pollution in the Mekong River – through a regional cooperation – the Mekong Commission).

Examples for economies of scale include sharing of expert resources (one expert for several countries), sharing project overhead cost (e.g. preparation, PMU). Economies of scope include the potential for sharing experience among countries (one more advanced country in one region may transfer know-how to a country that still lags behind in a certain area).

Major disadvantages tend to be: more difficult coordination of an intervention (larger size, interests of countries often not fully aligned, and “competition” for resource allocation among countries). Furthermore, regional projects are more difficult to design in a way that they cater to the needs of all countries. There are logistical challenges as well (e.g. different languages require translations/interpretation into different languages).

A risk is also that regional approaches lead to schematic designs (meeting only needs of a few among many countries). This in particular, where there is an asymmetry of economies in one region (some are bigger than others), development (some are more advanced than others e.g. South Africa in Southern Africa, and physical market access differs, (e.g., Kenya has a sea port but Rwanda does not).

The experience with the UNIDO regional project in UEMOA [2] shows the importance of the existence of a regional framework that the project is able to link into (UEMOA does have respective policies in place). Effective strengthening of regional frameworks requires a strengthening of the national level in parallel, to bring all countries to the level where they can contribute to the regional framework. Delegating national functions to a regional body does not replace basic SMTQ functions at the national level. Countries must for instance still be able to fulfil certain basic metrology and testing needs. Specialization of

laboratories and other service providers in a region is meaningful, but only if those service are really accessible to users of all countries (as seems to be the case in [2]).

In the case of the Mekong Region [5], UNIDO rightly shifted its approach from a transnational project to three coordinated stand-alone projects [5a–c]. The same approach was applied from the outset to SAARC [7].

Other issues arising from regional project evaluations include: (a) regional projects can bring economies of scale [5] but can also lead to heavy logistical burdens if regional travel is expensive [2]; (b) economies of scope are hard to achieve when the SMTQ needs vary greatly between countries [5] [7]; (c) sustainable regional networks of SMTQ practitioners have not always worked well [5] but having regional centres of excellence and best practice can be an advantage (notable the relationship between [7c] and [8]).

KSF D.3 Availability of and need for SMTQ services studied

The purpose of this KSF is to ensure that project interventions align with demand and existing capacity (supply). At the design stage, not ex post or as a project objective when project funds are already committed, an assessment is required of market demand for those SMTQ services that enterprises need to successfully engage into international trade and to increase competitiveness in terms of product price and quality.

Generally, UNIDO seems to have done a good job in assessing needs of direct beneficiaries as for example highlighted by the evaluation reports of the SECO-funded project in Vietnam [5c] and the NORAD-funded Mekong Region [5]. Although there was no evidence that the needs assessment always included the level of indirect beneficiaries (enterprises), evaluations concluded that relevance for end-users of SMTQ services was still achieved. Evaluators assumed that SMTQ service providers were well informed about market demand and expressed their needs towards UNIDO accordingly.

In most countries, capacities built with project resources seem to meet demand, but evidence was found that some of the equipment purchased was already available elsewhere ([6] [9] in regards to testing, [5c] in the area of QMS certification – ISO9000 and 14000, testing and conformity assessment). In LDCs such as Cambodia [5a] and Lao PDR [5b] there is no evidence of duplication because testing and certification capacities outside the UNIDO-supported institutions are extremely limited.

Several projects included market surveys, but usually these surveys were only conducted after the service had been provided or equipment procured ([9], [1], [7b], [7d]). There is some evidence that the depth of market research is insufficient. This is particularly noticeable in the laboratory sector where institutions are very reluctant to survey potential competitors, preferring to leave the 'market' obscure so that the investment occurs in their own institution [1]. For instance in [9] a microbiology laboratory was already available within the Food and Drug Agency, yet UNIDO supported establishing an additional microbiological laboratory within the Tanzania Standards Board.

Beyond market research, the engagement of the private sector, or ultimate client, in the design phase of projects is often missing [7]. This is critical because creating capacities based on wish lists of SMTQ service providers may result in building QMS certification and laboratory testing capacities in government institutions of countries where private providers of the same services are already active. Unless specific attention is being paid to these issues, projects may end up building or strengthening services that are already available in the market.

The Sri Lanka impact evaluation [8] discussed the issue of competition between private and public providers of testing services in greater depth and concluded that the UNIIDO intervention at six public laboratories led to greater competition among private and public providers of testing services in Sri Lanka, a result that the evaluators considered as a positive spin-off benefit. At the same time, evaluators raised concerns about potential distortions of the market for testing services because public laboratories normally do not cater for the depreciation cost of equipment. The Sri Lanka evaluation has been very positive about UNIDO success with making accredited calibration services available to Sri Lanka industry. Quite clearly,

Several evaluations highlighted that successful trade capacity building depends not only on the availability of accredited laboratory and certification services but at the same time requires a well functioning "competent authority" (the cases of honey in Nepal [7d] and of fish in Sri Lanka [8], Bangladesh [1] and Maldives [7c]) with all its surveillance and coordination functions. Thus it emerges from the evaluations that the analysis of SMTQ needs must by no means be restricted to the

Box 14: Needs assessment often biased towards laboratory support

"Unfortunately, the excessive focus on laboratory capacity is almost always (but unsurprisingly) supported by articulate and educated scientists in the beneficiary countries, even if this may not provide the best solution. Even where a need for improved laboratory testing is evident, it should not be assumed that the best solution is for the donor to support the introduction of new capacity. The author has never seen a donor undertake an economic cost-benefit study to help decide how best to source additional laboratory capacity. … In the author's experience, alternative approaches to providing laboratory tests (for example buying-in some testing services from the private sector, even if located outside the country) are not routinely costed."

Goulding I (2009)

traditional dimensions of testing and certification. UNIDO seems to be widening the scope of its needs analyses but the traditional bias towards laboratory support that is described in the literature and in many evaluations (see for example Box 14) is still an issue.

Focusing on those services that are potentially most profitable may be misleading. While such a focus may contribute to the financial sustainability of the supported public service providers, it may at the same time leave gaps in other areas that are critical for export capacity but which are not profitable enough for private players to provide. Stimulating but not distorting markets and taking into account the "public goods" dimension of certain services are the guiding principles of any proper needs analysis for SMTQ services (see also KSF E.1 below).

KSF D.4 NQS/SMTQ policy issues addressed

Clarity and direction in NQSs is supported by well formulated policies at the national and institutional levels. At the institutional level, this is often part of a "business plan". It is notable that this business plan is also often considered the key 'instrument' that promotes institutional sustainability of project gains [1] [6] [9]. The typical form of this is a NQS or SMTQ development strategy (mid-term) and a vision (long-term). On the legal side, this typically includes elements such as a quality law, standard law, a metrology law, a law on inspection and statutes of institutions that form pivotal parts of the NQS. The presence of clear policies and laws, which were drafted with extensive involvement of stakeholders are a sign that quality and standards have high political status and are core national values.

The lack of the necessary policy and legal framework in which to conduct credible SMTQ actions is a common delaying and constraining factor in SMTQ projects [1] [6] [7a] [7d] [9]. These constraints need to be identified and addressed during project identification and design.

There is evidence that larger and longer projects have greater influence on these issues [1] but also that failure to address the policy framework directly threatens project success [1] [7a] [9].

Most projects endeavoured to provide input to national policies. This was done in a timely way in Vietnam for example [5c – input of SECO and NORAD combined] – in the form of input to the country's new standard and quality laws. In parallel, UNIDO provided comprehensive input to a new statute for the national SMTQ institution (STAMEQ) – going well beyond a normal business plan. UNIDO also provided input to a Decree on revising the status of public service providers. In Ghana [3], the government approached UNIDO to provide input into a national quality strategy, which was originally not planned. Various projects include inputs

to strategic planning at the level of SMTQ institutions. The UNIDO input was often limited to establishing a so called “business plan”. However, the methodological and data basis of these plans was rather basic and, in several cases, the business plan was subsequently not taken up by partners [5a –b]. A general, unified approach within TCB on how to strengthen institutional aspects of SMTQ service providers is missing. National Quality Systems are often developed in the absence of a strategy that is endorsed by the government. Some countries tend to operate without strategic planning – thus it is difficult for UNIDO to successfully advocate a strategic planning approach.

KSF D.5 All scales of business reached

Large scale businesses that trade internationally are easy to identify and are often more amenable to work with outside agents, take risks or experiment. Working with small scale enterprises - whether exporters or suppliers of exporters or traders in the local market - is more challenging. Small-scale businesses are often an important part of the economy. Reaching smaller businesses is a sign of success because it indicates the ability to reach nascent and emerging industries. The importance of start-up businesses and small industry for job creation and innovation is well known. NQI should reach beyond lead-industries and sectors. The challenge is that UNIDO has to balance the objective of developing NQI that meets the needs of all business scales with the approach needed to get things started, which may include beginning with focus sectors and larger scale companies.

Compliance with international standards tends to be the purview of larger companies, particularly in the industrial sectors. The textile industry, for example, in many countries is a large, well established industry with its own industry organizations, ability to lobby government and sufficient income to invest in quality infrastructure of its own. The textile and garment sectors in Bangladesh [1] and Sri Lanka [8] are examples.

In developing economies, large and strategic industries seem to be much more successful in driving government policy and therefore in persuading government to invest in quality infrastructure (for example, the coffee and cashew sectors are far more influential on national economic policy than, say, the emerging tourism sector in Tanzania [9]). This tends to lead to what might be called quality poverty below a certain point. In the Bangladesh [1] textile industry, for example, in-country quality is driven by large lead-firms who must comply with the standards laid down in their contracts with buyers. These firms may then sub-contract to smaller companies, often with lower levels of quality and regulation and sell the finished product as ‘fully compliant’ with the buyers’ standards.

The possible exception to this are the natural resource sectors, where the unit of production is often small, but the value chain dominated by lead buyers or in-

chain agents. The success of small scale farmers in entering horticulture value chains is an example of quality driven by the needs of the small scale. In Bangladesh [1], small-scale horticultural production of indigenous vegetables for export to Europe is fast growing, but the quality infrastructure has yet to deal with the issues that this present. Export of shrimp from small scale capture and aquaculture in Bangladesh also faces the challenge of traceability and the evaluation demonstrated that there is no obvious or correct solution to this problem as yet.

In order to understand the impact on different scales of industry mechanism for data collection are needed in project design. Table 8 compares the scale of businesses among the actors mainly targeted in the interventions evaluated.

Table 8: relative scales of beneficiary companies

Country	Sector	Main beneficiary (1 = largest, 5 = smallest
Bangladesh (EC)	Textile	1
	Horticulture	4
	Fisheries	4
Ghana	Processing of agricultural products	2 - 4
Bangladesh (NORAD)	Food processing	1
	Battery manufacture	2
Bhutan	Food processing	1 and 4
Cambodia	Rubber, food, garment	2 - 3
Mozambique	Cashew	?
	Fish	1
	Honey	5
Tanzania	Coffee	2
Laos	Beverage industry, steel sheets	2 - 3
Vietnam	Food and beverage, garments	2
Sri Lanka		1 - 2
Maldives		1
Nepal		2
UEMOA	Focus on food and beverage (only checked in [2 a – c]	2 – 3. Problem of very limited domestic SME sector in some countries (e.g. Togo)

Provision of services to small scale business does not seem to be a common indicator of success of SMTQ projects and data is scant. In Tanzania [9], the companies assisted with ISO 22000 certifications were all large scale. In Bangladesh [1], the ISO 9000 certification went almost exclusively to medium scale businesses. In Bhutan [7b] certification training went exclusively to companies that are the largest (for Bhutan), though the private sector is so small many the companies reached were all quasi-government owned in any case.

In the metrology sector, calibration services seem to respond to the needs of larger scale businesses (e.g. Coca Cola in Tanzania [9]; Colombo Dock Yards in Sri Lanka [8]). Small businesses are equally affected by inadequate calibration of measuring devices, but the evaluations did not produce systematic evidence whether and to what extent the supported calibration laboratories actually managed to achieve significant reaching out to SMEs. In Sri Lanka, a number of medical laboratories benefited from the availability of calibration services.

The adoption of mobile calibration and metrology services ([6] [9]) may be a way to improve the reaching out of calibration laboratories to SMEs in rural areas, but neither evaluation managed to collect data showing what type of companies used the service. In Lebanon [4], the mobile metrology laboratory aimed at meeting demands of users outside Beirut. This was subsequently abandoned due to the lack of qualified staff to man it. Instead, small equipment for local inspectors was purchased to meet basic demands (control of weights/measures used in local markets). In the same country, the focus on packaging proved to be a promising way of reaching smaller companies (see Box 15).

Box 15: The importance of packaging in rapidly industrializing economies

An excellent way to make a real change for all types of businesses is the provision of "packaging services" in [4]. Advice in how to label and package products results in an immediate creation of value for various scales of companies, maybe with the exception of the informal sector. As long as there are no compulsory regulations on packaging for informal businesses, this is an arduous task. In Lebanon [4], inappropriate packaging and labelling was identified as the key reason for rejections of export goods to the European and U.S. markets. Beyond this, packaging helps companies to add significant value to their products and to increase sales prices, also for the domestic market. This is important for an economy in which companies cannot compete by price (cost of production are much higher than in neighbouring countries – due to higher salaries and energy prices). The same project specifically focused on supporting smaller scale businesses in implementing food safety regulations – this type of business would typically not have access to expensive consultants. The same is true for the pilot traceability scheme. In the three countries visited for the update of UEMOA [2], the project struck a balance between larger scale and smaller businesses. In some countries (e.g. [2c]), the local SME sector is extremely limited (companies are either very large or very small). The same is to a certain degree true for Cambodia [5a] and Lao PDR [5b].

KSF D.6 Consumer voice heard and strengthened

Quality conscious societies have mechanisms for consumers to a) be protected and b) feed their views into quality policies. It is the premise of this KSF that promoting consumer voice has a spill-over impact on improving quality in general, both domestically and for export products. Ultimately, value chains end with consumption and it is feed-back from consumption down the value chain (usually in for the form of complaints) that drives better quality and promotes compliance. There is, therefore, certain logic in including the consumers in quality issues that are important to them, such as standard setting and metrology.

The consumer has a role in identifying wrongly sold products (e.g. under weight, wrongly labelled, sub-standard etc). The concept of consumer rights is relatively

new in developing countries but is gaining credence. One reason for this is that policy makers recognise that the poor, who have less ability to make economic choices, are disproportionately punished by sub-standard products. This poverty aspect of SMTQ is little understood and deserves more research.

Generally, the role of consumers in quality policy seems very limited in developing countries. Traditionally, national quality infrastructure interfaced with the consumer most at the level of legal metrology where regular inspection and testing of weighing devices was a common aspect of colonial authority (for example in Bangladesh [1], Mozambique [6] and Tanzania [9]).

Table 9 compares different efforts by projects to promote consumer issues.

Table 9: Different consumer interventions

Country	Type of intervention	Scale within overall project (1 = substantial, 5 = insubstantial)
Bangladesh (EC)	Support to Consumer Association	3
	Support to testing lab for market surveillance	3
Bangladesh (NORAD)	None	
Bhutan	None	
Cambodia	Planned, but later abandoned	5
Ghana	Involved into steering committee	4
Mozambique	Consumer lobby sent on study tour	4
Tanzania	Quality curriculum development – not directly linked to consumer voice	4
Lebanon	Not planned	5
Laos	Planned, but subsequently abandoned	5
Vietnam	Not planned	5
Sri Lanka		N.A.
Maldives		N.A.
Nepal		N.A
UEMOA	Consumer lobby involved, yet not direct beneficiary – in most countries consumer organizations fragmented, so difficult to work with.	5

Source: Evaluators observations

Recent cases of food and health scares are examples where political and structural changes occurred in response to immediate threats. Consumer protection from domestic and imported sub-standard goods requires regular market surveillance (see Box 16). Generic support to laboratory upgrading has a spill-over impact on the quality of market surveillance, but assumes that governments have resources to conduct surveillance. In Bangladesh [1],

Mozambique [6] and Tanzania [9] for example, there was no recurrent budget to pay for transport for surveillance.

Box 16: International vs. domestic consumer pressure

In Bangladesh the death of a large number of employees in a number of textile factory fires where exits had been locked in recent years and several child-labour scandals has led to lobbying for the application of higher occupational health and social standards in factories. However, the evaluation found that very little had changed on the ground and that inspectors from the relevant competent authority were inadequately paid and penalties for contravening health and safety rules had not been adjusted to reflect inflation, rending them meaningless. In this case, consumer pressure from outside Bangladesh has led to development of health and safety conventions, but these had only been applied at exporting firms and not at their suppliers.

The role and status of the consumer lobby is commonly over-looked in project design and pre-project institutional mapping. It was captured in Bangladesh [1] at the design stage, but not in Mozambique [6] or Tanzania [9]. As with promoting the demand for quality, identifying the role of the consumer in society should be a normal part of quality project design. In [5a], it was identified as a project objective, but subsequently abandoned, because there was no representative consumer lobby. In the two communist countries (5b – 5c), it was not included into the project (but in 5c partially covered by a SECO-funded project – as a component of one project that aims at strengthening the competition authority). Anecdotal evidence suggests that consumer issues are often included in initial project designs, but do not appear in the final project design because of relatively low donor priority.

A key but unresolved issue faced by this KSF is how to sustain consumer voice after the end of project intervention. This area requires more research.

KSF D.7 "New" standards included

Increasingly international trade depends up on meeting the standards set by the buyer and new so-called private standards are constantly emerging. Providing services to meet these standards is a symptom of a well functioning NQS. The same is true for environmental and labour standards. Good NQSs are already responding to these demands[32].

Some projects included "awareness raising" for new standards. Notably all country projects in SAARC [7] included initial training sessions for social standards and occupational health. In Ghana [3], a similar activity was planned but not implemented due to time constraints. Developing solutions for developing countries how to address emerging new standards is an area where UNIDO can play a thematic leadership role. A related research project is currently underway in the TCB branch.

NQS institutions in several countries are facing concrete needs to respond to global private standards and to apply resources to the problem. For instance

[32] Recent examples include the emergence of Global Gap for the food sector,

Mozambique [6] and Tanzania [9] are both struggling with Global Partnership for Good Agricultural Practices (GLOBALGAP) but the projects did not include activities to address this issue, which apparently was not a problem at the design stage. Standards and conformity issues are highly dynamic and this needs to be addressed in project design to allow for the flexibility to realign resources to evolving market needs during implementation.

Emerging issues such as traceability of fisheries products to the catching vessel ([6] and [7c]) and a greater emphasis on social accountability ([7d [1]) are examples, where projects need to be able to readjust during implementation. The same applies for traceability from the farm to the fork (e.g., compliance with the EU Food Law) [3], [4], and [9] (see Box 17).

Box 17: Responding to private standards

"Important parts missing in the project document are the coverage of private product standards, such as EUREPGAP (or now GLOBALGAP), which became increasingly important for exporters to markets in Europe and the United States." [6: 8]

4.5 Theme E: Effective capacity building

KSF E.1 Appropriate counterpart institutions selected

This KSF relates to the identification of appropriate counterpart institutions (as opposed to counterpart individuals dealt with under KSF E.4).

Any well functioning NQS is composed of governmental, semi-governmental and private providers of SMTQ services. The basic rule from the economic text book is that those SMTQ services that are public goods[33] should be provided by public bodies, while delivering commercial SMTQ services should be left to the market. In practice, the situation is sometimes less straightforward.

Typical public goods in the SMTQ area are standard setting[35], legal metrology and accreditation[36] while industrial calibration, laboratory testing and voluntary

[33] We define public goods as goods the consumption of which by one party does not detract from the consumption of others. The so-called Public Good Problem occurs when nobody provides a good (or service) that is necessary for economies to function efficiently. In such cases of market failure, state provision can be justified and society as a whole should decide on who provides the good (Bannock, G., R. Baxter, et al. (1991). Dictionary of Economics,. London, Penguin.)

[35] In 30% of the ISO members, government is providing 100% of funds, 30% of members, the government is providing between 50 and 99% of funds.

[36] The new European Regulation 765/2008/EC on accreditation and market surveillance relating to marketing of products requires all EU member states to establish a single accreditation body whose international obligations are covered by the state (EU (2008). "Regulation (EC) No 765/2008 of the European Parliament and of the Council of 9 July 2008 setting out the requirements for accreditation and market surveillance relating to the marketing of products and repealing Regulation (EEC) No 339/93." Official Journal of the European Union 218(30)

[39] A good example is the establishment of a new public-private certification body in Sri Lanka.

certification services such as ISO 9000 are tradable goods that would normally be provided by the private sector on a competitive basis. Of course, a minimum testing infrastructure is a critical prerequisite for industrial development and therefore of public interest. An involvement of the public sector in delivering calibration and testing services may therefore be justified with a view to making these services available and affordable to all economic players. However, this does not necessarily mean that testing services must or should be provided by public bodies, even if calibration and testing services are instrumental for other non-SMTQ public goods such as health and safety, science and technology and education.

Because of UNIDO political mandate and its close linkages to governments a natural bias exists for the Organization to intervene primarily in the public arena. Intervening in favour of certain but not all private providers of SMTQ services would amount to distorting the market, which would not be acceptable. It does therefore not come as a surprise that the counterpart institutions of almost all projects under evaluation belong to the governmental or semi-governmental sphere. However, some of the more recent UNIDO projects, which have not yet been evaluated and hence do not come under this thematic evaluation, have evolved towards supporting private industry associations or collective bodies[39].

Public Private Partnerships (PPP) or Joint Ventures can be a solution in certain cases. For instance, the Metrology Institute of Lao PDR [5b] entered into a Joint-Venture with a Korean Company to provide calibration services for fuel tank trucks, which is a profitable business where there is already sufficient demand. The same is planned in Cambodia [5a] for the calibration and testing of gas bottles (household and industrial use. In both cases profits are shared between the international partner who provides the equipment and know-how and the local metrology department (public service provider of calibration – not covering legal metrology) who provides the land.

However, PPP are not a panacea to all problems. In cases where a mandatory regulation is involved, rent seeking, conflicts of interest and even corruption may occur. This has been the case of the formerly government owned import/export agencies in CIS countries. After liberalization these government agencies signed joint ventures with trans-national providers of testing services where government brought in mandatory import/export inspections, resulting in added inspection cost and eventually huge cost for the consumer. On the other hand, PPPs may not be practical in cases without profitable demand. In Ghana [3], the project document included as an objective the establishment of a Joint-Venture for the certification body but this turned out not to be feasible as no interested and suitable private partner could be identified.

Where public sector providers are weak and unable to properly respond to demand, working with existing private sector service providers is an alternative.

This has been the case in of the packaging centre in Lebanon [4], which is a private association while testing of packaging is done in public institutions that are also supported under the same project.

In some projects under evaluation the selection of the counterpart organization was influenced by factors such as historical bias, institutional rivalry or territorial conflict. Evaluations found at least two examples where UNIDO projects contributed to establishing parallel capacities (Bangladesh [1] and Tanzania [9]). This might have been due to pressures from counterpart institutions but also a result of a too restricted assessment of demand and supply. Tanzania has also been a typical case where the counterpart institution 'captured' most of the project benefits and did not 'include' other key players ([9] – see Box 18, [1]). Within institutions (notably larger ones) there can be internal exclusion and direction of resources to those parts of the organization "whose turn is it next" [1].

Box 18: Institutional rivalry and conflict

In Tanzania [9] UNIDO has traditionally worked with the Tanzania Bureau of Standards (TBS). Other donor dealing with SPS and market access issues have been focussing on the Tanzanian Food and Drug Administration (TFDA). Both institutions come under the Ministry of Trade but the competent authority in SPS matters in Tanzania comes under the Ministry of Agriculture. Competition between these organizations was found in the evaluation to be a factor that is highly likely to threaten project impact. Institutional mapping during project design might have captured these rivalries and suggested remedial activities.

KSF E.2 Institutional setting conducive to sustainability

This KSF suggests that well managed and governed SMTQ institutions are more likely to achieve project objectives and that the institutional setting includes external factors, which strongly affect and sometimes even pre-determine project results. This submission may be trivial but the thematic evaluation found that almost all projects had identified substantial institutional weaknesses during the design and inception phase without being able to address many of the root causes of these weaknesses.

The discussion below aims to provide more clarity on these institutional parameters - most of them external ones that are beyond the control of project managers - in order to allow for a better understanding of the difficult conditions under which projects are trying to contribute to institution building and organizational strengthening of SMTQ bodies in developing countries. The institutional parameters that are discussed below are: Institutional governance; financial and organizational autonomy; HRM issues; organizational maturity; over-dependency on external support and readiness for organizational change.

At the end of this chapter a checklist from the Sri Lanka evaluation [8] offers a set of practical criteria for ex-ante and ex-post assessment of institutional sustainability conditions.

<u>Governance</u>

National quality infrastructure institutions range from government departments with governance by line-management, to wholly independent institutions, owned by government, but managed by a board of independent governors. Movement from government line management towards 'independence' (though not necessarily private ownership – see the Public Goods arguments in E.1) is considered generally beneficial to NQS institutions.

The way that NQS institutions are governed affects the quality and credibility of services. Involvement of the private sector in governance of NQS shows government commitment to building infrastructure that meets private sector needs. Institutions that are governed independently, and include a wide range of stakeholders within the governance structure, tend to function better than purely government managed organizations. This is because they have flexibility to respond to the demands of the market, are independent of political interference (and therefore more credible in the eyes of potential buyers and partners) and that they reflect the real needs of the sectors that they are mean to service.

Most evaluations considered the governance of the key NQS institutions to be inadequate. Complaints included: no separate, independent governance body [7b], no or limited private sector involvement in governance [1] [5a] [5b] [7d], weak governance mandate (almost all).

Financial and organizational autonomy

Service providers need a certain degree of financial and organizational autonomy to function effectively and efficiently. There are different models, the degree of autonomy ranging from institutions that are allowed to keep a percentage of revenues but otherwise governed by the same organizational principles than for core administrative bodies until fully privatized service providers operating under a company model. In between, there are various mixed forms.

Financial and organizational autonomy contributes to the effective operations in several ways. Firstly, there is an incentive to improve the quality of service and better cater to customer needs. Secondly, service providers are independent from complex and time consuming budgeting and procurement regulations which often plague public bodies in developing countries [6] [7] [9] (e.g. for purchasing of material, equipment, repairs, etc.) and flexible in adapting to changing demands. Thirdly, frequently the autonomous status also allows for some flexibility in regards to hiring, dismissing and remunerating staff, which is a condition to build and retain a pool of qualified experts (outside staffing plans of the government).

Organizational maturity

It is noticeable that many of the SMTQ institutions supported are relatively young [4] [5] [6] [7b-c]. There may be a relationship between how long the institution has been existent and how willing it is to evolve and change. There is evidence

for an 'institutional maturity index' with some bodies, for example, mature enough to release important functions to the private sector as appropriate. More research is needed on this issue.

Over-dependency on external support

The length of time that donors have supported institutions may be an issue. Where support has been forthcoming for many years ([1], [7c] [9]) the degree of recipient 'fatigue and 'burn-out' may be high. By this we mean that commitment by the beneficiary institutions and willingness to make difficult structural and working-practice changes diminish over the time of intervention(s). It may be that donors should agree to a donor holiday for some institutions to encourage self-supporting and sustainable change.

Box 19: Insufficient awareness of sustainability issues in the fisheries laboratory sector

"Donors have insufficient awareness of the activities and costs associated with sustaining laboratory capacity to a required standard (that is accredited to ISO 17025). Almost 100% of the operational cost of a testing laboratory are fixed costs, and therefore need budgetary support of the beneficiary, which is rarely in place. As a result there are numerous examples of laboratory equipment supplied to fish testing laboratories but not used due to lack of training, service support, spare parts, and operating budgets for calibration, proficiency testing, accreditation fees and reagents. Yet the assumption persists that laboratory equipment continues to be an important part of TCB requests and projects in this area. In the worst case scenarios donor ignorance and lack of attention to these details have perpetuated conflicts of interest in laboratory management."

Goulding. I (2009)

Although not quoted from one of the country evaluations under this evaluation the considerations in Box 19 are illustrative because they suggest that insufficient awareness of sustainability issues on the side of donors may even be contributing to over-dependency on external support (see also KSF E.5 below).

HRM issues

Evaluations showed that HRM issues are of particular importance. Public institutions are often not free to locate, recruit, develop and retain staff on purely rationale grounds. Signs of dysfunction include: high staff turn-over, poor remuneration (compared with the market norm) [1] [6] [7d], complex organizational structures, often with no clear accountabilities, poor opportunities for progression [1] [7a], many unfilled positions within the formal staff complement [1] [9], and inadequate gender balance (especially among senior staff) [1]. Small countries struggle to locate suitable staff [7b] [7c]. Often staff with inappropriate technical backgrounds is recruited because of historic links between NQS institutions and host institutions. For instance, in Bhutan [7b], civil engineers have been recruited for the metrology laboratory because of the historic link with testing building materials.

Independence and staff incentive structure need to be balanced between motivating good staff and making the incentives to important to income that they threaten capital investment. This has happened in Bangladesh where the staff receive 60% of the, substantial, income of the BSTI as an annual bonus. The management of BSTI benefit disproportionately from this income and, therefore,

are less inclined to forgo it in return for capital investment or to share it among more staff. A link between performance of each individual staff member and bonus received should be made.

Readiness for organizational change

Besides advocating financial/organizational autonomy of NQS service providers and enhancing technical their capacities, transforming former administrative authorities into client-oriented service providers also requires a strengthening of institutional capacities (in terms of business planning, strategy, structure, but also in operational issues, e.g. marketing of services, financial management, managerial accounting etc.). Otherwise, there is a risk that those institutions will, despite an enabling legal status and state-of-the-art facilities, fail to sustain themselves as independent service providers, which in turn would jeopardize the sustainability of the NQS as a whole.

Well managed NQS elements have “business plans”, prepared according to best practices in enterprise management, which are then actively applied. These plans provide visions, aims, businesses goals and focus, demonstrate understanding and responsiveness to market demand and outline the difference between core and peripheral activities. Organizational structure follows the strategy (not political considerations). Business plans include a detailed market assessment (demand and supply), as well as financial projections (pro-forma income statements, balance sheets, and cash flow statements). The business plan should clearly state the source of funding for both operational expenses and investments and provide evidence of sustainability of those. Only institutions that that are able to cover basic investments into machinery and recurrent expenditure are sustainable.

Criteria for institutional sustainability

In the Sri Lankan impact evaluation [8] a check list of laboratory sustainability conditions was developed which was then tested in the three beneficiary institutions (see Table 10). The key findings of this analysis were that (a) retention of qualified staff is critical; (b) few organizations were including the full replacement costs of capital equipment or continued international accreditation in their prices; and, (c) only one of the three major Sri Lankan SMTQ institutions has an in-house maintenance and repair scheme in place. Despite these sustainability short-comings, the Evaluation concluded that “the conditions for sustainability are secured at all three institutes” (Pieris N et al 2009).

Table 10: Assessment of sustainability conditions in Sri Lankan SMTQ institutions

Sustainability criteria	SLSI[a]	ITI	TTSC
1. Equipment:			
1.1. Laboratory infrastructure	+	+	+
1.2. Climate controlled metrology labs	+	+	NA
1.3. Availability of chemicals and standards	+	+	+
1.4. Repair and maintenance service	-	+	-
1.5. Forward budget for purchase of new equipment	#	#	#
2. Staff:			
2.1. Skilled staff	+	+	+
2.2. Appropriate remuneration package[b]	-	+	-
2.3. Promotional schemes to encourage performers	-	-	-
2.4. Performance based incentive scheme	-	+	-
2.5. Suitable succession plan	-	-	-
3. Management/governance:			
3.1. Knowledge and experience suitable as per IEC 17025	+	+	+
3.2. Quality concept leveraged across entire organization	-	+	-
3.3. Laboratories operating as profit centres	-	+	-
3.4. Costing methods and pricing strategy	-	+	-
3.5. Dependence on income from mandatory requirements	-	NA	-
3.6. Laboratories able to meet changing demands	-	+	-
3.7. Strategic orientation towards client needs	NA	+	-
4. Accreditation:			
4.1. Scope of accreditation related to country needs	+	+	-
4.2. Budget for annual renewal of accreditation	+	+	+
4.3. Budget for maintaining accreditation	+	+	-
4.4. Budget for staff training for scope expansion	+	-	-

Notes:
[a] "+" = evidence found that criteria has been met, "-" = evidence found that criteria not met, "#" = Government of Sri Lanka (GOSL) dependent, "NA" = Not applicable.
[b] All institutions pay the Government of Sri Lanka (GOSL) stipulated salary scales. However ITI has a scheme for additional allowances to laboratory staff
Source: Pieris, N. et al. (2009)

KSF E.3 Credibility of SMTQ institution promoted

The premise of this KSF is that engagement with other similar institutions in third countries that have higher credibility and status and active participation in international standard setting, contribute to better national quality infrastructure through adoption of more appropriate international standards and greater credibility.

Active participation in the formulation of standards helps to build the reputation of quality institutions and opens the possibility that standard bodies from less developed countries have a greater say in the formulation of the international standard system and influence it to the benefit of its domestic producers and consumers. Countries who are members of the WTO, for example, are usually also members of the standard setting institutions such as codex alimentarius, World Organization for Animal Health (OIE) or the International Plant Protection Convention (IPPC).

Examples of activities likely to promote participation in international standard setting activities are: exchange of materials (Material Transfer Agreements); cross-visits; active participation in regional standards bodies; active participation in international standards (IEC, ISO, OIML, IAF etc) and rule setting bodies (IPPC, OIE, Codex, WTO SPS/TBT Committees); and, mutual Recognition Agreements. Table 11 shows the overall coverage of the evaluated projects in terms of attending international standards meetings. Membership of the International Standards Organization is fairly universal, but other bodies are not comprehensively represented.

Table 11: examples of membership of standard setting bodies of countries evaluated

Country	Body			
	International Electro-technical Commission (IEC)	International Standards Organization (ISO)	International Organization of Legal Metrology (OIML)	International Accreditation Forum (IAF)
Bangladesh		✓	#	
UEMOA			#	
- Cote d'Ivoire		✓		
- Senegal		✓		
- Togo		✓		
Ghana		✓	#	
Lebanon		✓		
Mekong Region				
- Cambodia		✓	#	
- Laos		✓		
- Vietnam	#		✓	✓
Mozambique		✓	#	
SAARC				
- Bangladesh		✓		
- Bhutan		✓		
- Maldives				
- Nepal		✓	#	
Sri Lanka	#		✓	
Tanzania		✓	✓	

Source: various web sites
NB: ✓ = full member, # = associate or corresponding member

Successful national quality institutions are recognised internationally and their tests, certificates and accreditations reflect this. The two key building blocks of credibility are mutual recognition agreements (MRA) and accreditation. To be viable in international trade, quality institutions, tests and certificates need to be recognised in the country where the product is sold. There are two ways to do this: either bodies recognise each other's standards as equivalent to theirs (MRAs) or certificates issued are accredited by a body that is recognised by both parties.

MRAs and accreditations are only for specific tests and processes. In Tanzania [9], for example, the project achieved accreditation for the measurement of time, which is of course a considerable achievement, but not indicative of a comprehensive accredited metrology service. Accreditation and MRAs can be good measures of success of a SMTQ intervention but it should not be overlooked that it is the ultimate impact on business and market access that counts. In this respect, the lessons from Sri Lanka [8] should not be overlooked, indicating that the ISO 17025 accreditation of a national textile laboratory did not make a significant difference for market access because international buyers in the garment sector tend to rely much more on private standards and private accreditation systems than on ISO 17025 accreditation.

The focus on accreditation in recent project designs, ([6], [9], [7], [5a – b], UNIDO is reasonable because accreditation is a measurable, objective and tangible end-result that is embedded in the WTO TBT/SPS agreements. However, projects should be designed in a way to allocate sufficient resources and time for this outcome to be achieved. Maintaining accreditation is expensive and requires recurrent budgetary commitment (NB: this finding was strongly supported by the Sri Lankan Impact Evaluation [8], see E.2 and Table 10). Some of the projects evaluated have achieved accreditation status for some of their processes, but only ex-post evaluation will find out if this status has been adequately maintained.

Table 12: MRAs and accreditation in the evaluation sample

Country	MRA planned	MRA achieved	Accreditation planned	Accreditation achieved
Bangladesh	Yes	No	Yes	No
UEMOA	N.A	N.A	Yes	
- Cote d'Ivoire	N.A	N.A	Yes	Yes, some
- Senegal	N.A	N.A	Yes	Yes, some
- Togo	N.A	N.A	Yes	Yes, some
Ghana	N.A.	N.A.	Yes	Yes
Lebanon	N.A.	N.A.	Yes	Yes, some
Mekong Region				
- Cambodia	No	No	Yes	1 laboratory (rubber)
- Laos	No	No	Yes	No
- Vietnam	Yes	Yes, well advanced	Yes	Well advanced
SAARC				
- Bangladesh	No	No	Yes	No
- Bhutan			Yes	No
- Maldives				
- Nepal				
Mozambique	No	No	Yes	No
Sri Lanka				
Tanzania	Table water - Kenya	Yes	Some aspects of metrology testing	Yes

Source: Various evaluations

The potential spill-over affects of a well regarded NQS are often over-looked. In a world where quality is a key element of competitiveness, enhanced reputation

built on a reliable and trusted NQS may have substantial un-measured and intangible benefits.

KSF E.4 Appropriate counterparts appointed and retained

Capacity building depends on the appointment of counterparts in the supported organizations who learn from the expert inputs of technical assistance and carry-on the work that has been initiated. Selecting, working with and successfully exiting from counterpart relationship has been a consistent challenge and point of potential tension.

In some of the projects under evaluation senior officials in the beneficiary institution [1] [7] [9] were appointed. Senior officials have the benefit of influence, but do not gain (on the whole) from the counterpart relationship. In other cases the counterpart appointed has been a temporary line-official who then moves on to another Ministry for career reasons [1] [6] (this phenomena is considered in Box 20).

Box 20: Examples of good and bad reasons for high counterpart turnover

In Senegal [2b], but also to some degree in Cote d'Ivoire and Togo [2a and 2c], working for government institutions seem to be attractive. Few people are eager to work for private laboratories – there might be different reasons for this.

This is different in SAARC [7], where many young specialists leave for the private sector and only return to the state sector before retirement (with the aim to receive lucrative consultancy jobs. High staff turnover was also a problem in Bangladesh [1], but not in Mozambique or Tanzania [6, 9], possibly due to a lack of alternatives. The same might be true for Cambodia and Laos [5 a, b], where no problems with staff turnover were reported. In Cambodia [5a], many officials work as "volunteers" (unpaid) – until receiving employment.

There is evidence of a certain spill-over effect beyond national boarders – specialists that are trained working subsequently in less developed neighbouring countries. Sri Lanka [8] is an example (see E.2 and table 11 above), but also Vietnamese institutions [5c] providing services for Cambodia and Laos [5 a + b]. In West Africa, Cote d'Ivoire [2a] has many specialists working in surrounding French speaking countries.

In a number of cases UNIDO has chosen to appoint National Experts [1] [2] [3] [5] [6] [9]. These are locally recruited consultants who are 'embedded' within the beneficiary institutions and co-terminus with the project [1]. Whilst there is some merit in this approach in terms of getting-things-done the long term institutional benefits are questionable. There may be spin-off benefits to the economy as a whole from having an experienced local consultant to call upon.

KSF E.5 Equipment maintained and budget available for recurrent expenses

SMTQ equipment needs regular maintenance often of a specialist nature unavailable in the recipient country and therefore expensive. In order to use complex laboratory testing equipment such as High Performance Thin-Layer

Chromatography (HPTLC) very expensive consumables are needed, which can be challenging for institutions with either small recurrent budgets or no flexibility to use income earned for recurrent expenditure (see for example Boxes 19 and 21). A particular problem is the recurrent costs of certification and accreditation from third parties. For NQS institutions, these costs can be substantial (e.g., many different laboratories and many different scopes that have to be inspected and renewed every year). Management quality standards also have to be renewed and this is rarely built into government budget and so lapses.

Box 21: Institutional income does not always means that funds are available for recurrent expenditure

In Bhutan [7b] someone buying a service from government has to pay for this service at the treasury, get a receipt and then go to the government department and demand the service. The government department then has to recover the recurrent cost of the service from its annual budget.

There seems to be a direct correlation between financial autonomy of institutions and their ability to maintain equipment, respectively cover recurrent expenses (see E.2 and Table 10 for evidence from Sri Lanka [8] that supports this finding).

Timely access to repair services is another important issue to be considered. In Mozambique [6], UNIDO aimed at facilitating the establishment of a centralized repair facility. The compulsory use of this however faced resistance. In UEMOA [2a – c], plans exist to support a central repair and maintenance facility for UEMOA, but probably on a cost recovering basis (operating like a company). Different options are still under consideration. In Bangladesh [1 & 7a], the BSTI has a central maintenance laboratories serving all laboratories in the institution – but all individual laboratories developed in parallel their own repair and maintenance services. Many of the institutions have internal maintenance and repair facilities, e.g. the Ghana Bureau of Standards [3].

Further issues arising out of evaluations:

- Importance of checking availability of maintenance services/supply in the country or the region at the procurement stage.
- Sharing manuals, documentation of equipment with beneficiaries (not always done), e.g. in Mozambique [6]
- Sequencing of delivery (all equipment in once)
- Coordinating CTA visits with equipment delivery
- Manuals and training in appropriate language

Overall there are significant differences among countries' ability to maintain/service equipment and cover the cost of operations.

4.6 Theme F: Good project governance and ownership

KSF F.1 Good project governance designed, agreed and implemented

Each individual project is in principle 'governed' by a 'steering committee' consisting of a range of stakeholders. Most commonly, these steering committees are nominally chaired by the senior civil servant from the lead Ministry (e.g. the Private Secretary of the Ministry of Trade and Industry in Tanzania) though this is often delegated to more junior officials. Members usually include: donor representatives from other relevant projects, senior members of staff from the host institutions, and direct project counterparts. Sometimes private sector representatives are included such as Chambers of Commerce. Occasionally there is a consumer representative ([1] [4]). The terms of reference for these steering committees vary.

In Vietnam [5c] detailed ToRs for the Steering Committee were part of the project agreement. Typical "responsibilities" of the Steering Committees were "strategic decision making", to "endorsing" project reports and "review budgets". Functions of "stakeholder involvement" and decision making were often mixed; although only the signatories of the project agreement would be entitled to decide on amendments (unanimously, unless otherwise agreed). In Vietnam, this contradiction was resolved by dividing the Steering Committee into voting and non-voting members. This seems to have worked well.

In several countries, Steering Committee members complained that important financial information was not disclosed to them (see for example Box 22), so it was not possible for them to express well-founded opinions ([3] [5] [6] [7] and [9]). This finding does not seem to be specific to the projects at stake nor to SMTQ or TCB projects but rather a consequence of the implementation modalities that are specific to UNIDO. However, UNIDO seems to be open to more transparency. In Ghana for instance, counterparts were provided full access to all reports following a strong recommendation by the mid-term evaluation, while in Lebanon this was already the case from the beginning of the project. In one case, the Steering Committee attempted to redirect project resources [1].

Box 22: Financial management not transparent to counterparts

"With regard to cost management of the project, this was almost impossible. Ghana Standards Board during the implementation phase was not provided with expenditures for the various activities. We are therefore unable to confirm at the end of the project whether resources were fully utilized for the various activities. It is also difficult to evaluate the allocation of funds for the project outputs which could serve as a guide in subsequent planning of future similar projects."

Darkwa A (2009)

Generally, Steering Committees met regularly, but in some cases, coordination with missions and/or prolonged absence of key members (UNIDO

Representative) led to cancellation of meetings [3]. In some countries, Steering Committees provided key strategic guidance, e.g. in Lebanon [4] on the model of the packaging centre. In Senegal [2b] the Steering Committee was divided into several working groups that produced meaningful recommendations on how to achieve project objectives at the local level (see also KSF C.4). In at least one case [see example in 5c], the quality of meeting minutes was poor in the sense that it was not clear what was decided.

KSF F.2 Alignment

Traditionally, development cooperation was delivered through "Agency Execution" meaning that a third party, such as UNIDO, would undertake all practical aspects of delivery such as financial management, procurement, day to day management etc. Agency Execution usually involved the hiring of Technical Advisors (often non-nationals of the beneficiary country) who would 'manage' all in-country aspects of a project. This model of full-fledged agency execution has a number of significant weaknesses. Disadvantages include lack of ownership of local counterparts, which tends to be one factor leading to poor results.

By contrast, the spirit of the "Paris Declaration" essentially means that the Government receiving aid should be responsible for implementing a project (including project management, sourcing of technical input, equipment, monitoring, reporting). Project management structures should be integrated as much as possible into the organization of counterparts (rather than within an external PMU) and implementation (planning, procurement, accounting, reporting) follows the normal local procedures of local governments rather than UN-norms. Local recipients of aid should be fully responsible and accountable towards the donor for the use of funds (rather than the executing agency).

All important donors of UNIDO are signatories of the Paris Declaration and so is the United Nations Development Group (UNDG)[40] (of which UNIDO is a member). In practice, implementation of the Paris Declaration has advanced slowly. An analysis of progress towards National Execution (NEX) showed that this process was at various stages in different countries (Wood et al, 2008). There is however a clearly noticeable trend both within the UN-system and among major donors towards forms of execution that partially or fully transfers the responsibility for implementation to local counterparts.

On the other hand, there seems to be a common understanding among development actors that transitions to forms of execution that partially or fully transfer the responsibility for implementation to local counterparts needs to be a gradual process, and take into account the specific situation in each country. For instance in Lao PDR [5b], the evaluators are not aware of any project that has

[40] United Nations Development Group (UNDG), see http://www.undg.org

been nationally executed so far. Alignment is not an objective in itself, but serves the purpose of increasing effectiveness of aid delivery through eliminating parallel structures and enhancing ownership. In other words, NEX should *not* come at the price of reducing aid effectiveness, which is an equally important commitment of the Paris Declaration[41].

The projects covered by this Thematic Evaluation were implemented under the traditional Agency Execution Mode, but with various degrees of involvement of local counterparts in decision making and practical implementation. In some projects, UNIDO has taken significant steps towards increased involvement of partners, such as for instance integrating PMUs into local partner organizations and delegating (sub-contracting) selected activities to local counterparts. Steps towards forms of "mixed-execution" (co-management of projects) were made by delegating decision making power to local counterparts. Not all beneficiaries want NEX, for various reasons (see Box 23).

Box 23: National Execution in SMTQ Projects?

Counterparts of some projects covered by this Thematic Evaluation [notably 5 c] expressed a strong preference for delivery of highly technical advice and equipment provision through the traditional agency execution mode, as this ensures access to highly-specialized expertise and allows for easier procurement of equipment in comparison with using the normal procurement procedures.

[41] OECD (2005) "Paris Declaration on Aid Effectiveness: Ownership, Harmonisation, Alignment, Results and Mutual Accountability." http://www.oecd.org/dataoecd/11/41/34428351.pdf . See also D.1.4 UNIDO internal coordination and inter-agency coordination.

V

Conclusions

This section draws together conclusions developed from the in-depth evaluations of 15 UNIDO SMTQ projects. Overall, we found that, in the dynamic realm of SMTQ, where standards and compliance criteria can change quickly, UNIDO response to urgent needs such as loss of market access due to rejections is often seen as a key advantage over other providers of technical assistance.

The core technical expertise available to UNIDO allows technically complex projects to be prepared. This internal capacity means that UNIDO is able to prepare projects largely in-house, at short notice and quickly. UNIDO main strength seems to be to provide technical expertise. With a few exceptions, partners were highly satisfied with the quality of the advice they received. We find that the range of TCB tools are appropriate and contribute adequately toward the achievement of project objectives but on the basis of the analysis we have a number of recommendations for changes and improvements and these are outlined in Chapter 6.

The conclusions of the thematic evaluation of SMTQ are collected into nine areas: (a) needs driven and long-term project preparation, (b) governance of NQS and SMTQ projects, (c) the role of the private sector in NQS, (d) sustainable capacity building in National Quality Systems, (e) regional and South/South cooperation, (f) decentralising and coordinating project implementation, (g) good project management (particularly applying results based management), (h) internal project support services, and (i) dialogue with donors. In the final section we draw a number of conclusions against the DAC Evaluation Criteria (OECD 2005a).

5.1 Needs driven and long-term project design

Findings from different evaluations show that needs driven and long-term project preparation has been challenging. Weak or absent institutional or stakeholder mapping during project preparation has sometimes led to gaps, overlaps and institutional rivalry. Pressure to develop projects in response to donor funding opportunities means that projects are sometimes designed hastily. A common explanation is lack of resources to ‘do a good job’ at this stage. Often UNIDO prepares projects from within its own limited resources. The result is: insufficient

time with stakeholders, poor institutional analysis, and weak project design. However, correcting project design after implementation has started is difficult. The absence of inception phases for most UNIDO SMTQ projects means that key elements of the project design, particularly the logical framework, do not get re-visited and adjusted at project start.

An important issue when defining the ideal make-up of a national quality system is whether having quality infrastructure promotes the emergence of export sectors or whether quality infrastructure should respond to needs as and when they emerge. There would be little point in developing a comprehensive and expensive national quality system for sectors of industry that either do not yet exist or are never likely to emerge. However, there is an element of chicken and egg argument in this discussion, because there is anecdotal evidence that not having certain infrastructure constrains investment just as existence of quality infrastructure is likely to encourage investment. The majority of projects adopted a rather supply driven approach assuming that improved SMTQ infrastructure would lead to exports, but little evidence could be found to directly support this assumption.

In principle, UNIDO is using a comprehensive approach to SMTQ. Most essential elements are covered, but some areas are more commonly supported than others. Much effort has gone into supporting accreditation of testing laboratories on the premise that this will result in better market access. The impact evaluation in Sri Lanka shed light on the causal chains from laboratory upgrading to export performance, but there is little evidence that laboratory upgrading is the most effective intervention strategy. SMTQ areas under-represented by project activities tend to fall into the demand side such as consumer protection, public awareness raising and main-streaming quality issues into policy and political agendas. It is not particularly clear on what empirical basis UNIDO priority setting takes place.

There is a noticeable range of different agendas at play at the time of design. For example, design can respond to donor specific agendas. The length and scope of interventions is a good example of poor alignment with projects often being too short or too broad to have significant impact. Another example is the technical area chosen for intervention. This can often be an area related to the donors interest or to specific commodity ‘scares’, particularly for food exports.

In some cases the range of interventions and balance between sectors covered under projects seems to reflect the technical background of the UNIDO group leading during the design phase. In others, the choices respond to beneficiary government perceptions. In some cases, capacities were developed because of perceived needs of partner countries (e.g. various forms of accreditation boards)

or based on “wish lists” of specific partner organizations rather than an objective and systematic assessment of existing demand and supply (see Box 24 for a view on the role of laboratory equipment and its role in the ‘mix’ of interventions and how UNIDO should address it).

Box 24: What should be done in future TCB programmes

“No more laboratory equipment, except under some well defined and limited conditions, although training, accreditation, proficiency testing, etc may be supported. TCB should consider longer term programmes, supporting longer term structural change to food safety management (no quick fixes, which leave no sustainable controls in place). This will need to consider governance, judicial processes and anti-corruption measures to ensure more effective actions to address non-compliances.”

Goulding I (2009)

The scattered compliance infrastructure and separation of competent authorities in different ministries is one possible cause why priority setting and targeting support to specific parts of the NQS is not always transparent. For example, the competent authority for the WTO Technical Barriers to Trade (TBT) Agreement is usually in the Trade Ministry whilst the competent authority for the WTO Sanitary and Phyto-sanitary (SPS) Agreement is almost always in the Ministry of Agriculture. In some cases, projects seem to have ended up working in particular technical and commodity areas purely because that is the Ministry that UNIDO has always been working with.

More needs to be known about the relationship between export potential (especially competitiveness), poverty impact and ‘threat’ of market loss in order to make these choice more rational. Where projects concentrated their resources on particular value chains there seems to have been a higher degree of success (e.g. processed food in Lebanon and rubber in Cambodia).

It seems that the first generation of SMTQ projects focussed on exports and the compliance requirements of export markets under the assumption that benefits to domestic SMTQ be a spill-over effect. However, there is no clear evidence that this spill-over effect is happening and some of the more recent SMTQ projects included better protection of domestic consumers against imports of sub-standard products as a complementary objective.

The potential poverty impacts were not the main objectives of the projects evaluated. The welfare benefits of domestic SMTQ are not yet well understood and need greater attention. More research would be needed on the relationships between SMTQ development and poverty reduction.

The evaluation also found that gender issues were not systematically main-streamed into the projects, but evaluations did not reveal (a) whether and how any positive or negative gender impacts were achieved and (b) whether and how mainstreaming gender issues would influence project results.

We note that UNIDO has adopted a comprehensive gender policy is mandated to mainstream gender in its actions and that gender guidance and training materials are readily available (e.g. Sagarra (2007))

There is emerging evidence that development objectives laid down in most project documents (facilitating trade, market access) would require a more comprehensive approach going beyond the traditional aspects of SMTQ. Some of the evaluations revealed an explicit need for support in issues related to marketing (packaging, advertising, market research and market information). Enterprises need comprehensive assistance in all areas relevant to international competitiveness. Integrating such "supplementary" services to enterprises into projects worked significantly better than delivering them through other projects, which often lead to coordination problems. The packaging centre in Lebanon was a case where comprehensive marketing related assistance was provided and highly appreciated.

Access to SME finance was challenging in all countries. SMEs were in many cases not able to undertake the investments necessary to upgrade themselves to an internationally competitive level, because they are unable to obtain long-term bank credits. A common reason seems to be that they are, are too big for micro-credit schemes and yet too small for private equity funds. Cooperating with the institutions available within several donor countries or using the services of the investment branch of UNIDO might be a solution.

Finally, services are increasingly used to add value to industrial products, which shows the importance of expanding coverage of quality aspects in the service sector.

5.2 Governance of SMTQ institutions

Evaluations confirmed that an active governance structure and stakeholders' voice in SMTQ institutions are conducive to the development of NQS.

The ability of SMTQ institutions to manage and govern themselves independently and to make effective policies and strategic decisions as demonstrated by the implementation of clearly formulated institutional plans is seldom supported. Institutional strengthening of SMTQ institutions (beyond just writing "business plans") is an area where more support is needed.

5.3 The role of the private sector in NQS

With some exceptions, the involvement of the private sector in the design, implementation and governance of SMTQ projects is not sufficient to ensure full ownership. Where the private sector is involved, it tends to be larger companies, and in some instances state-owned companies with "traditional relationships" to counterpart organizations. The private sector has a role to play on both demand and supply side of SMTQ. On the demand side, much greater engagement with

firms throughout the project cycle is needed. On the supply side, promotion of private sector SMTQ service providers should be a normal part of all projects.

Traditional UNIDO projects consider SMTQ services primarily as 'public goods' assuming that key SMTQ functions and infrastructure are most efficiently provided by government. This model has been strongly supported in countries with very limited domestic export industry or strongly centralized government. Increasingly this model is being counterbalanced and adapted with by introducing elements of private ownership and competition into certain aspects of NQS.

With the emergence of private standards and third party certification and accreditation UNIDO has moved towards a more public-private-partnership (PPP) stance with private service providers included as project beneficiaries for certain areas of SMTQ work as appropriate.

The update report for the Mekong Region highlighted an example for endeavours of one Metrology Institute that signed a Memorandum of Understanding with a private company to establish a joint venture to provide certain calibration services. This form of Public Private Partnership (PPP) could be selectively considered an alternative way to fund parts of the SMTQ infrastructure. Yet it is too early to assess how this will work in practice. The evaluators note that, in some cases, private service provision has been not had the expected outcomes (e.g. QMS certification in the Southern Asia region).

5.4 Sustainable capacity building in NQS

In many of the projects evaluated, results were threatened by the absence of key national standards, policies and suitable legal instruments. The key assumptions and elements necessary to deliver sustainability of SMTQ institutions are beginning to be documented (Pieris 2008) and UNIDO is well placed to apply these lessons.

The evaluations found that the official project counterparts were not always the direct beneficiary. This sometimes limited the relevance to the direct counterpart. More recent projects have endeavoured to include the Competent Authorities as counterparts and beneficiaries and this is the right approach.

In some cases financial autonomy of national quality institutions contributes to sustainability and is an important strategic aim. Notwithstanding, financial autonomy needs to be balanced with accountability. The evaluation found that some institutions have misused their autonomy because of weak governance, and accountability. Institutional strength is an important factor for sustainability (for example demonstrated by strategic plans, clear objectives, job reviews etc).

The appropriateness of the counterpart selected is regularly questioned in evaluations, particularly the counterpart institution chosen and the level of the counterpart within that institution. Counterparts in the wrong institution can cause conflict between stakeholders. Choosing a counterpart that is too high within the structure of the institution (e.g. the ministerial level instead of the institution directly responsible) can be ineffective at promoting ownership and capacity building.

5.5 Regional approaches

Two types of regional approaches to SMTQ development were evaluated: "transnational" projects pursuing the strengthening of a *regional National Quality Infrastructure* (e.g. establishing one regional accreditation body) and *projects with regional coverage* that combined a set of national interventions with the aim to achieve economies of scope and scale.

The transnational approach was appropriately used where a formal regional cooperation framework to "link into" was already in place. UNIDO rightly combined the strengthening of both regional and national SMTQ institutions in parallel, recognizing that a minimum national quality infrastructure is required to make a regional SMTQ function well. Achieving the right balance between intervening at the national and regional level seems to have been a challenge, namely where the baseline of countries differed significantly. Presence of a lead country with rapidly advancing NQS within a regional approach seems to facilitate regional cooperation, both formal and informal.

In regional projects without multinational objectives, UNIDO successfully achieved economies of learning by sharing experience among regional countries and economies of scale by coordinating input (e.g. one CTA or Project Manager for several countries, combining expert missions, etc.). Economies of scope and scale were partially offset by difficulties to tailor support to diverging needs of individual countries in one case by complex parallel management structures (regional, national).

5.6 Decentralising and coordinating project implementation

Day-to-day project management of interventions worked best at the field level. Delegating as much responsibilities as possible to the field (NPC or CTA) allowed for a timely response to challenges, freed capacities of the Project Manager to focus on issues that really matter, and reduced implementation delays.

In contrast, projects that were centrally managed by UNIDO HQ with little delegation of responsibilities to the local project team experienced different forms of delays. Project managers were overloaded with micro-management issues (e.g. with procedures to get minor expenses paid) and unable to respond to challenges in a timely fashion.

Successfully delegating more responsibilities to either NPCs or CTAs requires the selection of staff with excellent leadership skills and management experience. NPCs and CTAs with a thorough understanding of the local context, networking skills, ability to move things forward, integrity and a commitment to produce results performed particularly well.

Where more responsibilities are delegated to NPCs, technical and administrative backstopping by the Project Manager, CTA, and UNIDO Representative become more important. Increased implementation and fiduciary risks need to be counterbalanced through strengthening result-oriented monitoring.

To implement the 'Compete, Conform, Connect' Approach in an effective manner UNIDO needs to collaborate with other development actors including other UN Agencies and within UNIDO itself. This proved to be challenging in practice.

The 'TCB Approach' is in general appropriate and takes into account that other conditions need to be in place to allow companies to capitalise on export markets. However, in practice these have not necessarily been addressed in an integrated way. UNIDO should play a leadership role by actively ensuring the coordination of all elements that come under the TCB Approach. The thematic evaluation found no evidence that UNIDO Integrated Programmes and "One UN" have yet contributed to complementarities and synergies.

UNIDO is one of the most important providers of technical assistance in the area of SMTQ. However, the area is broad and several cases of donor coordination short-falls or overlap were found. For SMTQ projects, regional integration and regional projects represent a particular challenge for harmonisation.

The way that SMTQ interventions align with domestic infrastructure and plans is also important.

There are signs that UNIDO gradually starts adopting Paris Principles within the limits of its traditional mode of implementation. However, several projects still had parallel implementation structures, where implementation could have been embedded in partner institutions. UNIDO physical and financial management norms mean that money and implementation responsibilities are retained and investments not passed through existing national structures and institutions. Nevertheless, we found that UNIDO has taken important steps towards more involvement of local partners within the existing agency execution mode.

5.7 Good project governance and management

Joint-management approaches with Project Management Units (PMUs) fully integrated into counterpart structures were the most successful management model.

Several projects were criticised for having inadequate or poor governance mechanisms, while in other projects, a wide range of stakeholders were involved in providing strategic guidance. We found that active and diverse steering committees as well as strong co-management practises lead to better results. In other countries, we encountered an attitude that UNIDO was solely responsible for delivering outputs. Development partners for instance complained that UNIDO fails to deliver equipment on time whilst UNIDO desk officers observed that serious in-country impediments cause equipment delivery delays such as the need for buildings to be completed or laws to be finalised. The presence of these issues in many evaluations suggests that more can be done to promote a sense of mutual ownership and accountability for outcomes. Project management structures are sometimes unclear, do not differentiate between strategic management and day-to-day management, do not promote stakeholder involvement and are unclear about the roles of partners, including the donor, in project management.

In a number of cases a mismatch between competence to decide, responsibilities and accountabilities of those involved into project implementation led to tasks not being properly implemented. Defining clear roles/responsibilities (e.g. of Chief Technical Advisors) and communicating them to partners is important, otherwise, misunderstandings and confusion might occur. This also includes deciding on clear communication lines, including with the donor, according to the principle “one focal point per partner”.

Existing resources in UNIDO field offices could be better used - as successfully done in two projects where the UNIDO representative acted as a “facilitator” and bridge between headquarters and the field.

UNIDO has consistently improved its use of project management tools including result based financial planning and reporting. However, there is still much scope for improvement. Project management tools are not fully and properly utilised, particularly the logical framework. Often, no specific risks and assumptions are defined. Also, a plan how to address risks identified was mostly missing.

Numerous KSFs are dependent upon external factors and the evaluators found that they were frequently confronted with the phrase “we have not achieved this because we cannot force them to make the necessary changes”. Some of those factors could have been but were not identified as risks/assumptions at the outset of the project. This suggests a need to re-think the elements of conditionality, ownership, national commitments and project phasing. It shows the importance

of properly using the log-frame tools (including defining risks/assumptions and identify ways to address those).

Weak Objectively Verifiable Indicators (OVIs) and the absence of milestones with "go/no go" decisions mean that proper monitoring and evaluation of projects is not possible. Collection of baseline, bench-mark and data to measure impact is almost non-existent[43]. Evaluation of impact is currently not possible due to the absence of base-line data, impact pathways and bench-marks.

UNIDO institutional focus tends to be on activities rather than outcomes. UNIDO could do much more to ensure that its management methods focus on results and impact. For example, project cycle management is often biased towards the implementation and delivery rather than monitoring outcomes and impact, ensuring sustainability and promoting ownership. It was striking that some projects measured "results" in terms of a percentage of funds disbursed! We found isolated cases of listing outputs funded by other donors as results in project reports, a practice that should be strictly avoided as it undermines creditability of UNIDO.

UNIDO evaluation method does not currently allow the relative success or failure of projects to be compared or the direction of progress and improvement to be assessed over several evaluation/review cycles. Applying a unified and systematic approach across the entire project portfolio would allow for "benchmarking" within UNIDO to serve organizational learning.

The UNIDO financial management system does not currently allow real-time assessment of physical progress and an assessment of efficiency (what did it cost to achieve a certain result, how much of the funds were spent for what type of input). The fact that financial information is not available to counterparts in all projects was a source of great frustration to counterparts, beneficiaries and some of the donors. Beyond not responding to the criteria of transparency in using public funds, UNIDO forfeits the opportunity to build partners' capacity on project planning and budgeting. Last but not least, detailed information on deployment of funds would be valuable for UNIDO internally as a basis for planning of future projects.

Good practice would be up-to-date financial reports that allocate expenditures both against UN-budget lines and activities. Meanwhile, some projects have implemented their own "manual" solutions in parallel to UNIDO "AGRESSO" system, by using a simple EXCEL spreadsheet.

Projects seldom self evaluate, which suggests that an opportunity is being missed for promoting ownership by encouraging stakeholders to be involved in setting and measuring their own criteria for success.

[43] There are exceptions (e.g. SAARC) but the evaluators doubt whether the effort will really allow impact to be measured ex post.

5.8 Internal project support services

UNIDO has developed a unique and highly valuable stock of expertise in SMTQ project delivery. We noted significant differences in how UNIDO internal services (notably procurement, accounting and human resource management) were provided. While in some projects, this seems to have worked perfectly well, it was a major challenge elsewhere, in particular where UNIDO used the services of UNDP.

In some projects, issues surrounding procurement jeopardized the achievements of expected results. A particular challenge seems to be follow-up in case of irregularities, e.g. equipment not according to specification, damaged during shipment or in case of warranty issues. The thematic evaluation found that maintenance of SMTQ equipment was a challenge in several projects and that involving maintenance technicians in procurement might assist with this issue.

We found that UNIDO often pays insufficient fees to local and international consultants to procure the right level of services. Qualified SMTQ consultants are in high demand, including from private sector clients. Paying low rates is a serious threat to UNIDO ability to attract talents, which is an important comparative advantage and crucial to ensure UNIDO ability to maintain the excellence of its expert provision.

Long-term project staff did not always meet the requirements of the job and in some instances recruitment problems were threatening project success. Recruiting and retaining top level technical staff is crucial to project success and warrants a greater investment in professional HR selection processes.

Also, UNIDO has some excellent National Staff who could be empowered to undertake more day to day tasks.

5.9 Dialogue with donors

SMTQ projects tend to be planned for 3-4 years whilst the time needed to achieve results in this area is usually longer. The thematic evaluation found that commonly it takes LDCs much longer to achieve sustainable NQS. No long planning / strategic planning over several phases was found. Closely linked to that, most project designs turned out to be overambitious. The project duration and the resources available were not commensurate for reaching all intended objectives. A number of projects ran out of funding, partially because of overambitious planning. Occasionally, projects were identified and developed “on-demand” by UNIDO for donors. For example, a donor may have a funding opportunity, a target country and a narrow funding window and asks UNIDO to respond to these parameters.

5.10 Findings in the light of the DAC Evaluation Criteria

The following findings emerge in the light of the standard set of evaluation criteria of relevance, efficiency, effectiveness, impact and sustainability.

a) Relevance

The evaluations reviewed found that UNIDO projects in the area of SMTQ are in general highly relevant. This seems to reflect the pressures that governments and enterprises are under in developing economies to respond to the new world quality order where the onus is on the producer to comply.

b) Efficiency

Projects seem to be an efficient means to deliver activities. The approach used in this thematic evaluation (which included only an assessment of UNIDO projects) did not allow for comparing the efficiency of UNIDO interventions against other development actors. Neither has UNIDO bench-marked its costs or service qualities so relative efficiency between projects or over time cannot be assessed.

Most SMTQ projects are slow to start and have some elements of procurement problems. Financial management procedures and practical, day-to-day, management are consider problematic by some stakeholders and these relate to UNIDO management resources, internal bureaucracy and the centralisation of management functions.

Project overhead cost (not agency execution cost) are typically high, which is partially due to the focus on capacity building (e.g., high costs of experts in this specialist field). SMTQ is a technically specialist area for which the demand for expertise is strong and the supply weak. High overhead costs for SMTQ projects need to be more readily accepted by donors.

UNIDO is particularly good at locating and fielding short term SMTQ experts.

c) Effectiveness

Few projects evaluated had achieved their planned outcomes within the initially planned time frame. Projects had often performed most of the planned activities, but achieved only some of the planned outcomes. Project plans are constantly too ambitious (intervention time not sufficient, project too short or aiming at covering too many areas, absorption capacity of beneficiary institutions too low).

d) Impact

There is very little that can be said about the impact of the projects evaluated because in almost all cases (except Sri Lanka where an attempt to measure impact ex-post is being made) the means to measure impact in unavailable. Impact of UNIDO support may be substantial, but the projects evaluated had no effective means to assess impact such as base-line surveys or bench-marking against other SMTQ systems designed into them. Where objectively verifiable indicators existed, they were found to be inadequate for impact measurement because they were not specific enough or no activity to collect data had been put in place. This is a serious strategic short-coming in UNIDO SMTQ projects. More effort is needed to identify and test a set of potential impact pathways specific to SMTQ projects against which data can be collected in future to assure impact assessment. If impact is to be measured at all during evaluations, projects will need to be designed with this in mind.

e) Sustainability

The financial sustainability of institutions that received support is a concern, but this is not always related to simple income vs. expenditure arguments. While, in general, sustainability concerns were highest in least developed countries, some of these countries found solutions by giving more financial autonomy to their SMTQ institutions. Other countries seem to assume that UNIDO or another donor would continue support at the point of evaluation. The fact that some SMTQ projects had failed to achieve their immediate objectives at the time of evaluation encouraged recipients to believe that continued support from UNIDO is irrefutable.

VI Recommendations

This section presents the recommendations of the thematic evaluation based on the findings summarised in the previous chapter.

I. Recommendations to UNIDO

1. Needs driven and long-term project preparation

UNIDO should develop and adopt a structured and in-depth approach for SMTQ project preparation. Processes for project preparation should be clearly defined and consistently applied by all members of the TCB branch across the entire SMTQ portfolio.

1.1 Conduct NQS mapping and gap analysis (SMTQ service users and providers both private and public and also across TBT/SPS - funding of such analysis to be provided either from UNIDO preparatory assistance funds or by donors – see also recommendation 9.);

1.2 Active involvement of key stakeholders (in particular industry associations, private SMTQ service providers and consumers);

1.3 Identify “lead sectors / lead value chains” and designing projects from the demand side (including service sectors where appropriate);

1.4 Include domestic SMTQ benefits (e.g. better protection against sub-standard imports) systematically into project design (see also recommendation 10. to donors) ;

1.5 Assess expected contribution to poverty reduction and identify impact pathways in sub-sectors with close trade/poverty linkage;

1.6 Integrate gender issues into all aspects of the project cycle, particularly project preparation and develop suitable gender indicators;

1.7 Define country specific counterpart structures taking into account the respective institutional landscape in the country and potential institutional rivalries and avoid pre-definition of counterparts and technical areas of intervention on “political” grounds.

2. Contribute to improved governance of National Quality Systems

Building on its comparative advantage as a "neutral broker", its thematic leadership and political weight, UNIDO should assist governments with reducing systemic failures of National Quality Systems (unclear responsibilities; duplications; frictions) by introducing more effective governance/steering structures and developing long-term "Master Plans" for NQS development.

2.1. Support governments in applying good governance principles within the National Quality System. Governments should take care of: proper dialogue and involvement of the private sector, consumers and other key stakeholders; reduce or avoid conflict of interests and promote a systemic approach to NQS development;

2.2. Promote National Quality Fora involving Government, industry associations, public and private SMTQ service providers and consumers as an institutionalized governance structure and a platform for policy dialogue with Government accompanying lawmaking processes;

2.3. Consider expanding the approach of private public partnerships already adopted in Sri Lanka (e.g. semi-private certification bodies, joint-venture etc.) also to other countries;

2.4. Continue strengthening the demand side for quality services by capitalizing on the positive experience in countries where this has been successfully done;

2.5. Promote the national "quality culture" e.g. by systematic public awareness-raising; quality awards, introducing quality training into technical university curricula, strengthening consumer organizations;

2.6. Develop long-term "Master Plans" for NQS development as a new UNIDO service package, possibly involving other UNIDO branches mentioned under recommendation 8).

3. Private sector involvement

UNIDO should further develop its recent move towards a stronger involvement of the private sector in SMTQ projects.

3.1. Watch the balance between the "public goods" dimension of SMTQ services (e.g. rule of law; assuring access to SMTQ services) and stimulating markets for those SMTQ services that can be provided by the private sector (e.g. testing; certification) and avoid exclusive partnerships (lock-in) with Government and public SMTQ providers;

3.2. Stimulate markets for SMTQ services, e.g. by counterbalancing possible cases of oligopolies of private SMTQ service providers;

3.3. Watch the risk of crowding out private labs and SMTQ consultants and include them into support programs (not individually but through associations of private laboratories; associations of quality consultants; etc).

4. More comprehensive approach to capacity building and change management at partner organizations

UNIDO should adopt a more comprehensive and long-term approach to institutional strengthening that takes into account organizational development and change management principles and goes much beyond technical training.

4.1. Conduct thorough and structured analyses of the organizational structure and capacities of counterpart organizations (using in-depth assessment methods such as organizational assessment, “report cards” or “health check”);

4.2. Apply the same organizational assessment tool consistently and objectively across countries to allow for cross-national benchmarking;

4.3. Develop a set of benchmarks (e.g. “sustainability assumptions”) against which counterpart organizations should be checked;

4.4. Set minimum sustainability criteria that should be mandatory before embarking on a project (e.g. minimal level of institutional autonomy);

4.5. Agree on a “change management compact” with periodic checks of progress against jointly pre-defined benchmarks.

5. Regional and South-South cooperation

UNIDO should further develop its leadership in stimulating regional and South-to-South cooperation.

5.1. Encourage South-South cooperation between SMTQ organizations, e.g. through facilitating partnerships of organizations, internships, trainings and exchange of experts; benchmarking and developing regional “centers of excellence”;

5.2. Build on the success of international platforms such as “labnet” and encourage international benchmarking of good practices among SMTQ organizations as part of UNIDO technical assistance projects;

5.3. Regional approaches (strengthening regional structures) should be used where a project can link into already existing regional institutions and cooperation frameworks. When applying regional approaches, take into account different development stages of countries, allow for “multiple track” implementation and strengthen national and regional structures in parallel.

6. Enhance national ownership and decentralize project implementation

UNIDO should further develop its implementation mechanism, strengthen project governance and project management structures and coordinate with other UN Agencies.

6.1. Empower Project Steering Committees and provide them with result-oriented, accurate and regular information for decision making;

6.2 Where appropriate, consider establishing a unified steering committee and project management structure for several UNIDO SMTQ projects in the same country or region (seek donor agreement, where necessary – see recommendation 10);

6.3. Delegate project implementation as much as possible to the field;

6.4. Avoid setting up independent project management units (PMUs) but rather integrate PMUs into national administration bodies;

6.5. Provide partners with full transparency on management decisions and project expenditures.

7. Good project management practice (RBM)

UNIDO as a whole should further improve its internal quality control framework and the TCB should develop its own internal mechanisms and responsibilities to ensure the consistent application of good project management practices across the entire branch.

7.1. Systematic application and updating of logframe analysis and planning including identification and monitoring of external factors (risk management);

7.2. Adopt results based budgeting and financial reporting;

7.3. Make inception phases mandatory to update project planning to changing conditions;

7.4. Define monitoring mechanisms, responsibilities and allocate the necessary funds for monitoring with a specific focus on outcome and impact monitoring (also ex-post) and consider cooperating with local partners for this;

7.5. Adopt regular and accurate reporting on progress and self-evaluation;

7.6. Develop a scoring system for evaluations that would allow for comparisons and benchmarking between projects.

8. Act as "One UNIDO" in TCB projects

Clarify and streamline roles and functions of "substantive branches" and overcome operational challenges between UNIDO "substantive branches" and "service branches" through better integration of service branches into the project cycle at an earlier stage.

8.1 Implement the "3C" approach through better coordination in-house and with other UN Agencies and development actors;

8.2 TCB branch should be leading "comply" related activities (also food safety and SPS);

8.3 PSD branch should be leading "compete" related activities (including "industrial upgrading");

8.4 Agro-industry branch should be leading agro-value chain activities;

8.5 Energy and Environment branch: Responsibility for environmental and energy standards should be clarified;

8.6 Involve the UNIDO procurement branch at an early stage of procurement and include local conditions such as maintenance issues into technical specifications of equipment;

8.7 Involve HRM in the selection of Chief Technical Advisors and other long-term consultants and apply standard selection criteria including management aspects and soft skills, such as management skills;

8.8 Apply appropriate fee rates for hiring national consultants that are in line with the respective market rates.

II. Recommendations to donors

9. The donor should accept long-term commitments because SMTQ requires a comprehensive approach and long-term efforts; investing into multi-annual “master plans” and multi-layered governance and coordination structured is good value for money and prerequisite for sustainability;

10. The donor should align their funding policies with country needs (e.g. include welfare benefits of domestic SMTQ as appropriate – see recommendation 1.5) and coordinate with other donors to enhance aid effectiveness;

11. The donor should be aware that too much pressure for timely implementation and expenditure without taking into account (unexpected) absorption problems may be counterproductive;

12. The donor should avoid elements of “tied aid”, as these may blur project objectives and strategies;

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Annex I: Terms of Reference

Introduction

Responding to a request from the UNIDO Executive Board, the UNIDO Evaluation Group has initiated a thematic evaluation of UNIDO activities in the area of "Standards, Metrology, Testing and Quality" (SMTQ). This thematic evaluation is part of the work program of the UNIDO Evaluation Group for 2008 – 2009.

Norway and Switzerland, two major UNIDO donors who are particularly involved in UNIDO projects in the SMTQ area, have agreed to lend their financial and substantial support to this thematic evaluation.

The thematic evaluation shall be based on individual project evaluations from which it shall draw lessons learned. Furthermore, in response to a desire of UNIDO management and donors involved in TCB to understand the added value over and above the technical competence that UNIDO brings to this area, the thematic evaluation should produce evidence of UNIDO leadership and visibility within this thematic context.

UNIDO reference framework for SMTQ evaluations

Since the 1980s UNIDO has been supplying Technical Assistance (TA) for SMTQ in a large number of countries, over different time periods, with different technical coverage, using various implementation mixes (training, advisory services, equipment etc) for numerous sectors and products. The overall volume of the Organization's project portfolio in this area is considerable and growing fast.

Investment in SMTQ is a key ingredient in promoting trade. SMTQ is part of the Trade Capacity Building (TCB) theme and represents the "compliance" aspect of UNIDO "compete, conform, connect" approach.

TCB is one of the three Thematic Priorities of UNIDO. The Medium Term Program Framework (MTPF) of UNIDO includes a programmatic results matrix that provides the basis of a reference framework for results based management and evaluations of TCB interventions. This programmatic results matrix includes organization-level objectives, outcomes and performance indicators for TCB, as shown in Table 1.

This programmatic results matrix will be used as an overall generic reference framework for the purpose of the present thematic evaluation.

Trade capacity-building	Performance indicators:
Expected impact: *Industries in developing countries are enabled to produce and trade goods and services that meet international public and private industrial standards, and benefit increasingly from globalization.*	• Increased exports, in particular from poverty relevant sectors • Reduced rejection rates of exported products • New products brought to the global market
Outcome 2.1: International standards and compliance Policies and regulations enhance opportunities for international industrial cooperation and rule-based, non-discriminatory patterns of trade.	• Trade policies give priority to industrial development • Effective policy dialogue between public and private sector • Harmonized framework of trade-related institutions • Enterprises are effectively protected from sub-standard imports
Outcome 2.2: Standardization and trade support institutions Support organizations adopt and diffuse international public and private industrial standards, provide trade-enabling assistance to enterprises seeking to supply international market opportunities.	• National and international standards are aligned and relevant to enterprises • Support organizations serve increased numbers and types of enterprises • Enterprises have access to necessary trade-related services • Enterprises are satisfied with quality of services

Table 1: UNIDO Programmatic Results Matrix for TCB

Evaluation objective and expected outcome

It is the proposition of this thematic evaluation that, by collecting, comparing and contrasting the findings from individual evaluations of UNIDO SMTQ projects at country level, important lessons can be learned and applied to future design, implementation and evaluation of this type of projects. Wider lessons of relevance to UNIDO and its partners may also emerge.

The thematic evaluation will build upon a number of project evaluations carried out between 2005 and 2009 at national or regional level in overall 18 countries. To ensure the uptake of evaluation results by the Organization a highly participatory approach shall be applied. UNIDO managers and staff specializing in SMTQ shall be involved in all steps of the evaluation. Validation workshops shall be held at critical milestones of the evaluation process.

Evaluation objective

The ultimate objective of the thematic evaluation is:

Further improvements of UNIDO technical assistance in the area of SMTQ and consolidating and developing the thematic leadership of the Organization in this area.

Expected evaluation outcome

The expected outcome of the thematic evaluation is:

Findings, recommendations and lessons learned emerging from the thematic evaluation are available and used for the design, implementation and monitoring of UNIDO TCB interventions.

Typical intervention areas of SMTQ

SMTQ is a wide-ranging theme covering different "areas of intervention", such as enhancing and improving:

- the legal and administrative framework for SMTQ;
- testing laboratories (equipment; training and accreditation; etc);
- metrology institutes (equipment; training; traceability; mobile calibration units; etc);
- standardization (standards setting; TBT enquiry points; etc)
- process certification (ISO 9000; ISO 14000; ISO 22000; private standards; traceability schemes; etc)
- product certification (public and private certification schemes);
- accreditation bodies (setting up, capacity building and recognition);
- consumer associations and their role in standard setting.

This list of "areas of intervention" is indicative. It shall be further refined as part of this thematic evaluation (see below).
The thematic evaluation shall cover interventions in priority food sectors, such as fish, shrimps, coffee, cashew nuts as well as in certain non-food sectors such as textile, leather, electrical equipment, etc. In addition to interventions aiming at strengthening institutions of the quality system, the thematic evaluation shall also look at interventions at the level of pilot companies, in particular in the areas of ISO 9000, ISO 14000, HACCP and ISO 22000.

Evaluation method

To draw meaningful comparisons between disparate interventions and project evaluations, the thematic evaluation shall apply a multi-level sampling and testing method. The evaluation approach proposed is divided into four 'work-packages'.

- The first work-package will develop, test and apply the method to a limited sample of existing recent evaluations with the objective of testing the underlying intervention theory and assumptions and identifying KSFs and thematic lessons.

- The second work-package will provide depth and width to the analysis by adding more countries from new geographic areas and looking at different types of project delivery.
- The third work-package will assess UNIDO thematic leadership in SMTQ in the context of efforts made by others in this area and the specific potential and actual added-value of UNIDO.
- The fourth work-package will bring together the three work-packages into a final synthesis report.

Work package I – develop, test and apply method

Step 1: Literature review

Existing literature on implementation and evaluation of SMTQ interventions shall be briefly reviewed to ensure that existing research is adequately considered and to map out UNIDO specific contribution in the wider area of TCB. This wider perspective will also be necessary to assess the relevance and may be the impact of the UNIDO contributions. The literature review will also contribute to work-package III (assessment of UNIDO Thematic Leadership).

Expected output: Literature review report.

Step 2: Mapping UNIDO projects and 'areas of intervention'

The universe of relevant UNIDO projects shall be identified and screened. Areas of intervention (an indicative list is provided on page 3 of these terms of reference) shall be mapped against the ideal make-up of a National Quality System. Each potential area of intervention shall be briefly described in order to establish a solid conceptual basis to assess what activities each project actually undertook.[44]

Expected output: Description of UNIDO projects and areas of intervention

Step 3: Select a sample of projects for thematic evaluation

Criteria will be developed for rationally selecting a sub-sample of the universe of relevant UNIDO projects that will allow generalised conclusions to be drawn. Possible selection criteria might include:

- Recent - Evaluation of project completed within the last three years or information easily 'topped-up'. This would ensure that the lessons are 'fresh' and market relevant.
- Representative of different stages of development – LDC, Developing, Transition countries. This would allow lessons to be disaggregated by developmental context.

[44] Planning and implementation often differ, so this would also have to be taken into account

- Implementation method – revealing of different methods of co-operation and implementation. This would allow comparison of a range of approaches and method of delivery.
- Importance to the overall UNIDO portfolio. This would ensure that 'flag-ship' projects are not missed out.
- Regional vs. national interventions. This would allow questions about scale and synergy in regional trade to be considered.

Expected output: Project sample

Step 4: Levelling-off

It is likely that some of the evaluations identified need to be updated to ensure that the information to be compared is collected within a tolerable time frame. The evaluations have, on the whole, been carried out by different evaluators and using different methods, so some gap-filling will be required.

To assist with this a series of guiding question have to be developed. These questions will need to be re-applied to existing evaluations and, if necessary and possible, some additional research conducted (probably by e-mail or telephone) to fill-in spaces to allow for a proper comparison.

Countries to be covered under Work-package I are:

Country	Evaluation date
Bangladesh	Feb 08
Tanzania	Sept 08
Mozambique	Sept 08
Vietnam	June 2005 and June 2007
Laos	June 2005
Cambodia	June 2005

For Vietnam, Laos and Cambodia, some additional information gathering will be needed to bring them up to the same level of analysis as Bangladesh, Mozambique and Tanzania.

Expected output: Consolidated, updated and harmonized information from six evaluation reports

Step 5: Intervention theory and Key Success Factors (KSFs)

This step is at the core of the thematic evaluation and decisive for the success of the entire exercise. From the analysis of the UNIDO portfolio of SMTQ projects and the sample of evaluations the overarching intervention theory (logframe including assumptions) will be distilled that would be the basis for the thematic

evaluation. Furthermore, a catalogue of factors will be developed that were key to success (or causes of problems). These KSFs will be developed at three levels:

- Overarching or generic KSF – for example in relation to stakeholder analysis during project design; counterpart ownership; project governance mechanisms; etc.
- KSF that are specific to the themes or areas of intervention – for example in relation to establishing a national certification body; what needs to be in place for a TBT enquiry point; purchasing the right metrology equipment for a metrology upgrading project component; etc.
- KSF relating to developmental context of the target country or region – e.g., development background, stage of development, degree of trade integration, economic liberalisation.

The development of a catalogue of KSF will be an iterative process with adaptations after each application to a project. Starting point will be the "SMTQ Evaluation Issues" attached to this document in Annex 1. For each KSF a 'KSF Summary Sheet' will be drawn up explaining the KSF, its relationship to other KSF's (where appropriate) and examples/rationale drawn from the sample of evaluations. For each key success factor a ranking criteria will be developed to assess consistently what is meant by a good or bad score.

Expected output: About 50 KSF summary sheets (description and ranking criteria)

Step 6: Rank sample projects on the basis of KSF and extract case stories

The KSF framework and the ranking criteria will be tentatively applied to the sample of the six projects under work-package I.

As far as available in the evaluation reports and other available documentation typical illustrative case studies of companies or other beneficiaries will be extracted who benefitted (or did not benefit) from the projects under evaluation.

Expected output: First draft report

Step 7: Validation workshop

At this point a small working group meeting will be organized with UNIDO staff to discuss the method and its application before it is applied to a wider range of evaluations.

Expected output: Agreed method and analytical framework

Step 8: Interim report

The interim report of work-package will apply the agreed method and analytical framework on the sample of the six projects of work-package I. The method and criteria to allow comparison elaborated in the earlier steps now allow analysis between projects and the drawing up of a first round of thematic lessons.

Expected output: Interim report

Work-package II – deepen and widen the analysis

Work-package I focussed on developing and testing the methodology for the thematic evaluation of SMTQ projects. Its sample of projects concentrated on recent evaluations. Under work-package II the evidence base of the evaluation will be greatly enhanced by three additional steps:

- A mid-term evaluation of the second phase of the UEMOA program planned for the second and third quarters of 2009. This mid-term evaluation will allow updating the 2005 evaluation of the first phase of the UEMOA program and including the 8 UEMOA countries in the thematic evaluation
- A mid-term evaluation of the second phase of the SAARC programme planned for spring 2009. This mid-term evaluation will allow updating the 2006 evaluation of the first phase of the SAARC program and include 4 SAARC countries in the thematic evaluation.
- An impact evaluation of the long-term UNIDO support to Sri Lanka in the SMTQ area will be carried out in 2009. This impact evaluation will add an important element of 'length of intervention' to the definition of KSFs. Building backward and forward linkages between this impact evaluation and the thematic evaluation will be essential for both evaluations.

Countries/regions to be covered under work-package II of the thematic evaluation are:

Region/countries	Evaluation date
UEMOA (Union Economique et Monétaire Ouest Africaine); 8 countries covered : Guinea Bissau; Senegal; Mali; Burkina Faso; Benin; Niger; Togo; Côte d'Ivoire;	Mid-term evaluation in 2009 should apply thematic methodology; one team member of the thematic evaluation should participate in this review.
Sri Lanka	Impact evaluation planned for 2009
SAARC (South Asian Association for Regional Cooperation); 4 countries covered: Bangladesh; Nepal; Bhutan; Maldives	Mid-term evaluation in 2009 should apply thematic methodology; one team member of the thematic evaluation should participate in this review.

Overall, work-package II the analysis would extend the evidence base of the thematic evaluation from 6 to 18 countries.

Finally, the findings of this thematic evaluation need to be peer reviewed and validated at a workshop.

Step 1: Liaison with parallel evaluations

The thematic evaluation team will liaise with the Sri Lanka impact evaluation and the UEMOA and SAARC mid-term evaluations. This will include support to the evaluations; the preparation of input papers and methodology, the participation in workshops, etc. The methodology for the three individual evaluations will have to be fully compatible with the method developed under the thematic evaluation and all exercises need to be properly synchronized.

Expected output: Input papers and methodology

Step 2: Review of work-package results

The definition and mapping of areas of intervention and of the KSFs identified under work-package I will be reviewed in the light of work-package II. The analysis will be extended to the additional 12 countries.

Expected output: Draft report covering the work package II countries

Work-Package III: Assessment of UNIDO Thematic Leadership

This work-package is to evaluate UNIDO "Global Forum" contributions to SMTQ. The proposition is that UNIDO Global Forum activities not only add value to its own TA but that these activities also promote "Thematic Leadership", advocacy and UNIDO role in global governance and policymaking. It is also assumed that UNIDO is uniquely placed within the UN system to undertake this role and this is confirmed in a recent overview of UN-wide trade capacity building services.[45] UNIDO Global Forum activities in this area include, for example: thematic research, bench-marking of SMTQ, advocacy on SMTQ activities, publications and fora (webpages, workshops etc). Interviews will be held to clarify questions such as:

- What Global Forum activities are done?
- How are the benefits of such activity measures?
- How do they contribute/relate to SMTQ in-country projects?
- What more could be done/is missing?

From the perspective of the overall landscape of SMTQ activities, some further questions arise:

- Who are other relevant players?
- What do other players do in the area of SMTQ thematic leadership?
- What are the perceptions of UNIDO role?

[45] See http://www.unido.org/index.php?id=884

- What are the opportunities for developing UNIDO thematic leadership in ways that add value to SMTQ in technical assistance?

Methodology

For this work-package the method would centre round building a picture of the contribution made by UNIDO in thematic leadership and then testing this through interviews with key informants, to assess the location and potential impact of thematic leadership activities. The method would be divided into three stages. Firstly, relevant literature would be sourced and reviewed with a particular focus on identifying texts that demonstrate areas of thematic leadership by UNIDO and where third parties have quoted or used UNIDO literature as a source. On the basis of this review and discussions, a series of research questions would be developed. These questions would then form the basis for a series of key informant interviews with a selection of opinion formers and beneficiaries or potential beneficiaries of thematic leadership. Potential clusters of key informants include:

- UNIDO management and SMTQ specialists
- Other UN agencies involved in Trade Capacity Building: e.g., ITC/UNCTAD
- SMTQ 'leaders' and apex bodies (see table 1)
- Member states and beneficiaries (Nb: there will be a role for UNIDO HQ and local offices here in setting up interviews with suitable senior officials)
- Donors in the field of SMTQ (e.g., SECO, NORAD, DFID)
- Examples for recent UNIDO field interventions (e.g. from the SMTQ thematic evaluation)

TBT	SPS
Bureau International des Poids et Mesures (BIPM)	OIE
International Accreditation Forum (IAF)	IPPC
International Electrotechnical Commission (IEC)	FAO
International Laboratory Accreditation Co-operation (ILAC)	GlobalGap
International Organization for Standardization (ISO)	
Telecommunication Standardization Bureau of ITU (ITU-T)	

Table 2: Examples of SMTQ Leaders and Apex bodies

Findings will be brought together in a short synthesis report, clarifying the key areas of visibility in thematic leadership and highlighting areas where there is potential for improvement.

Expected Outputs: The output of work-package III would be a report incorporating an assessment of UNIDO visibility and thematic leadership in the area of SMTQ and the wider effects of this leadership.

Work-package IV: Synthesis

The fourth element of this thematic evaluation is to bring together all the work-packages into a coherent, concise and insightful summary synthesis and to validate the results at an expert meeting.

Step 1: Final synthesis report
Preparation of synthesis report covering all work-packages.

Expected output: Draft synthesis report prepared and submitted.

Step 2: International expert meeting
The synthesis report shall be presented, discussed and validated at an international expert meeting.

Expected output: Endorsed final evaluation report

Evaluation management and composition of the team

The UNIDO Evaluation Group will be responsible for evaluation management, quality control and proper synchronization of the Sri Lanka, SAARC and UEMOA evaluations with the thematic evaluation. Reports from these evaluations are expected to be finalized by end of August 2009 at the latest. In case of unexpected delays of these reports, the timing of the dependant tasks of this thematic evaluation would be adjusted accordingly.

The evaluation team will be composed of:

- An international expert specializing in SMTQ evaluation who will be leading work packages I, II and IV;
- An international evaluation expert who will be participating in all work packages and carry out the updating and levelling-off of the Vietnam, Laos and Cambodia evaluations;
- A senior evaluation expert from UNIDO who will be leading work package III;
- An evaluator/researcher from UNIDO who will participate in the development of the KSFs.

The peer group for the validation workshop (step I.7) will be composed of specialized staff from the UNIDO TCB branch.

The peer group for the final expert group meeting (step IV.2) will include representatives from other UN Organizations and the ISO.

Indicative timescale

Activity/milestone	Month (2009)											
	J	F	M	A	M	J	J	A	S	O	N	D
Work-package I												
Literature review	■											
Areas of intervention mapping		■										
Levelling-off Vietnam, Laos and Cambodia	■											
Key success factors	■	■										
Ranking against key success factors		■										
Validation workshop in Vienna			■									
Final report of work-package I				■								
Work-package II												
Sri Lanka	■	■	■	■	■	■	■					
SAARC				■	■	■	■					
UEMOA					■	■	■	■				
Methodological input into individual evaluations		■	■	■	■	■	■	■				
Draft report covering 13 WP II countries									■	■		
Work-package III				■	■	■	■	■	■			
Work-package IV												
Preparation of final synthesis report											■	
Final workshop												■

Annex II: Chronology of key events

Item	Month/Year	Notes
Evaluation of “Bangladesh Quality Support Programme”	3-4/2008	Bennett et al
Evaluation of Mozambique “Enhancing the Capacities of the Mozambican Food Safety and Quality Assurance System for Trade”	7-9/2008	Bennett and Keller
Evaluation of “Tanzania Trade Capacity – Building: Enhancing the Capacities of the Tanzanian Quality Infrastructure and TBS/SPS Compliance Systems for Trade”	7-9/2008	Bennett and Keller
Thematic Evaluation of SMTQ starts	1/2009	
Attendance at TCB Branch Retreat, Vienna	1/2009	Bennett and Loewe
Mekong Region Evaluation Update	2-3/2009	Keller
Key Success Factor Validation Workshop, Sri Lanka	3/2009	Bennett, Keller and Loewe
Evaluation of “Market Access and Trade Facilitation Support for South Asian LDCs, through Strengthening Institutional and National Capacities Related to Standards, Metrology, Testing and Quality (SMTQ) – Phase II”	6-7/2009	Loewe and Bennett
Key Success Factor Validation Workshop, Vienna	4/2009	Bennett and Loewe
Contribution to Sri Lanka SMTQ Impact Evaluation	6/2009	Bennett
UEMOA Evaluation update	9/2009	Keller
Validation of Work Package I recommendations with TCB Branch	9/2009	Bennett and Keller
Evaluation of Ghana SMTQ project	9-10/2009	Keller
Evaluation of “Increase Access to Export Markets for Lebanese Products and Improvement of its Quality Infrastructure to Increase TBT/SPS Compliance”	10/2009	Keller
Presentation of results at “Re-Visiting UNIDO Trade Capacity Building Approach”, Vienna, Austria	11/2009	Bennett and Keller
Thematic Evaluation of SMTQ (not including thematic leadership) finished	12/2009	Bennett, Keller and Loewe

Annex III: Key Success Factor Evaluation Check-List

The following list of evaluation questions flow from the KSFs identified during the thematic evaluation of SMTQ. It is suggested that these questions should provide useful starting-point for future evaluation and SMTQ project bench-marking activities. However, the list should be regularly re-visited to bring up to date with best-practice and market demands.

The questions are divided into six 'thematic' questions each of which has a number of specific sub-questions that relate to the KSF identified in WPI. These guiding questions are clustered by theme, but related to both project cycle elements and DAC criteria (see figure 2). These thematic questions have been tested in a number of evaluations and would seem to be both robust and useful.

A. Was the project tailored towards the country context?
- Where the needs of potential quality drivers properly identified and addressed?
- Was the project strategy aligned to the needs and context of the target country?
- Was the agenda of the donor in-line with and appropriate for the needs of the country?
- Did donors coordinate effectively?
- Were the elements of "Compete" and "Connect" addressed by the project or by others?
- Is there evidence that the project adapted to changes in the country context during implementation?

B. Was long-term planning done during the project cycle?
- Does the donor agenda allow for long-term planning?
- Was the project embedded in wider national and donor strategic plans such as sector-wide strategies etc?

C. Were implementation and management mechanisms efficient?
- Were appropriate management tools (logframe, RBM, PCM, monitoring, sustainability plans, gender analysis, monitoring of assumptions etc) fully utilised?
- Did all parts of UNIDO coordinate fully to achieve the project aim?
- Was the right expertise provided (quality, quantity and timing)?
- Was the right equipment procured (correct technical level, on time, fully functioning and used)?

- Were the implementers fully empowered to implement the project (CTA, counterparts and other stakeholders)?
- How did the project address and overcome practical implementation issues (staff allowance, high staff turn-over, counterparts etc)?

D. Was the approach to developing a NQS user-orientated and systemic?
- Were conflicts of interest and causes of fragmentation in the NQS identified and addressed?
- Was the NQS mapped and analysed during project identification?
- Was the availability of and need for SMTQ services fully appraised (with particular reference to the private sector)?
- Were NQS and SMTQ policy issues identified and addressed?
- If the approach adopted was a regional one, how efficient was this at using the resources available (compared with national approaches to achieve the same aim)?
- What scale of business was reached by the project and could more have been done to address the needs of small enterprises?
- Was the 'voice' of the consumer included in the package of activities?
- Were new and emerging standard issues included and addressed during design or implementation?

E. How effective was capacity building?
- Were the right/appropriate counterpart institutions selected and supported?
- Did the project promote the physical and financial independence of the selected counterpart institutions?
- Have the selected counterpart institutions improved their credibility as a result of the cooperation?
- Were the right counterparts appointed and were they retained/replaced during implementation?
- Have equipment maintenance and recurrent costs been adequately addressed to ensure sustainability?

F. Was the project well governed and do the beneficiaries fully owned the results?
- Was the project well governed?
- Were parallel implementation structures avoided?

Annex IV: Key Success Factor Summary Sheet Example

D.6 Consumer voice strengthened

Quality conscious societies have mechanisms for consumers to a) be protected and b) feed their views into quality policies. It is the premise of this KSF that promoting consumer voice has a spill-over impact on improving quality in general, both domestically and for export products. Ultimately, value chains end with consumption and it is feed-back from consumption down the value chain (usually in for the form of complaints) that drives better quality and promotes compliance. There is, therefore, certain logic in including the consumers in quality issues that are important to them, such as standard setting and metrology.

Within countries, the consumer has a role in identifying wrongly sold products (e.g. under weight, wrongly labelled, sub-standard etc). The concept of consumer rights is relatively new in developing countries but is gaining credence. One reason for this is that policy makers recognise that the poor, who have less ability to make economic choices, are disproportionately punished by sub-standard products. This poverty aspect of SMTQ is little understood and deserves more research.

The role of consumers in quality policy seems very limited in developing countries. Political and structural changes in response to food and health scares are probably the most direct examples.

Traditionally, national quality infrastructure interfaced with the consumer most at the level of legal metrology where regular inspection and testing of weighing devices was a common aspect of colonial authority [1], [9] and [6].

A second traditional area is consumer protection from domestic and imported sub-standard goods (so called dumping). This activity requires regular market surveillance. Generic support to laboratory upgrading has a spill-over impact on the quality of market surveillance, but assumes that governments have resources to conduct surveillance. In Bangladesh [1], Tanzania [9] and Mozambique [6] for example, there was no recurrent budget to pay for transport for surveillance.

The role and status of the consumer lobby is commonly over-looked in project design and pre-project institutional mapping. It was captured in Bangladesh [1] at the design stage, but not in Mozambique [6] or Tanzania [9]. As with promoting the demand for quality, the role of the consumer in society should be a normal part of quality project design. In Cambodia [5a], it was identified as a project objective, but subsequently abandoned, because there was no representative consumer lobby. In the two communist countries (5b – 5c), it was not included into the project (but in Vietnam [5c] partially covered by a SECO-funded project – as a component of one project that aims at strengthening the competition authority).

Anecdotal evidence suggests that consumer issues often included in the 'wish list' of SMTQ project designers, but are relatively low priority and therefore often to not appear in final project design.

A key but unresolved issue faced by this KSF is how to sustain consumer voice after the end of project intervention. This area requires more research.

Table 1 compares different efforts by projects to promote consumer issues.

Table 1: Different consumer interventions

Country	Type of intervention	Scale within overall project (1 = substantial, 5 = insubstantial)
Bangladesh (EC)	Support to Consumer Association	3
	Support to testing lab for market surveillance	3
Bangladesh (NORAD)	None	
Bhutan	None	
Cambodia	Planned, but later abandoned	5
Ghana	Involved into steering committee	4
Mozambique	Consumer lobby sent on study tour	4
		3
Tanzania	Quality curriculum development – not directly linked to consumer voice	4
Lebanon	Not planned	5
Laos	Not planned	5
Vietnam	Not planned	5
Sri Lanka		N.A.
Maldives		N.A.
Nepal		N.A
UEMOA	Consumer lobby involved, yet not direct beneficiary – in most countries consumer organizations fragmented, so difficult to work with.	5

Relationship to SMTQ

Consumer voice would seem to be generic.

Location in project cycle

Relevant to all stages, but particularly important at identification and design stages.

Special consideration of consumer issues may be needed to ensure that they are considered at design and evaluation stages.

Evidence base: Ratings according to projects/countries

Which of the evaluations demonstrate the importance of the KSF?

Table 2: Evidence base for KSF D.6

Country	Donor	Rating
Bangladesh	EU	1
Bangladesh	NORAD	4
Bhutan	NORAD	3
Cambodia	NORAD	2
Mozambique	SECO	2
Tanzania	SECO	1
Laos	NORAD	4
Vietnam	SECO	4
Vietnam	NORAD	4
Sri Lanka		4
Maldives	NORAD	4
Nepal	NORAD	4
UEMOA		3

Rating 1 – 3

1 = Strong evidence

2 = Some evidence

3 = Weak evidence

4 = Not applicable/not assessed

Limitations

No limitations except perhaps for scale of interventions. Small projects may not have sufficient resources to deal with all issues, including consumers.

Findings and case study material from evidence base relating to consumer voice

In Bangladesh [1] the death of a large number of employees in a number of textile factory fires where exits had been locked in recent years and several child-labour scandals has led to lobbying for the application of higher occupational health and social standards in factories. However, the evaluation found that very little had changes on the ground and that inspectors from the relevant competent authority were inadequately paid and penalties for contravening health and safety rules had not been adjusted to reflect inflation, rending them meaningless. In this case, consumer pressure from outside Bangladesh has led to development of health and safety conventions, but these had only been applied at exporting firms and not at their suppliers.

In Bangladesh [1] the project supported the Consumers Association. However, this body was not taken seriously by government because it is believed to be politically motivated. It was also noted that there are several consumer lobby organizations in Bangladesh and that it was not clear which of these was most important.

Annex V: Country Summary Sheet Example

3.9 Tanzania

Programme Name:

Trade Capacity Building: Enhancing the Capacities of the Tanzanian Quality Infrastructure and TBT/SPS Compliance System for Trade

Duration of Support:

January 2006 – December 2008: 3 years

Budget:

USD 2,200,000

Partners:

Funding agency:
State Secretariat for Economic Affairs (SECO), Switzerland

Primary:
Ministry of Industry, Trade and Marketing (MITM), Tanzanian Bureau of Standards (TBS)

Secondary:
Ministry of Education and Vocational Training (MoVET)
Tanganyika Coffee Curing Company Ltd
Weights and Measurement Agency (WMA)
Tanzania Industrial Research and Development Organization (TIRDO)

Project Location:

Dar es Salaam, Tanzania

Background:

Tanzania is one of the world's least developed countries and remains largely pre-industrial with industry contributing only 9.2% to GDP. A key reason for the project was a desire on the part of Tanzania to benefit from its preferential international market access through meeting technical, sanitary and phytosanitary standards for its exports.

There has been a long history of donor support to SMTQ in Tanzania.

Overall Goals:

Facilitating industrial development and export capabilities (and consequently spurring economic growth and employment opportunities) by reducing technical barriers to trade through strengthening standards, metrology, testing, quality and conformity assessment institutional structures and national capacities.

Current Objectives:

(1) Metrology/calibration/testing capacity of the Tanzanian Bureau of Standards (TBS) strengthened and recognized internationally;
(2) Strengthening national institutions for conformity assessment (including certification and inspection);
(3) Improving Tanzanian quality chain for testing and certification for export.

Approaches:

- Capacity building and equipment supply for calibration certification and mobile calibration services.
- TBS capacity to certify product and system standards raised by training.
- Coffee and cashew nuts value chains research and supported to meet international standards

Results Achieved and Expected:

- Some metrology scopes accredited (mass, temperature, small volumes and timers)
- Weights and measures agency received some equipment and training
- Mobile calibration equipment supplied
- Capacity building for quality system certification done, but accreditation not achieved
- 9 companies trained on ISO22000. Expect to certify two companies.
- Study tours on traceability completed (Uganda and Egypt) and pilot computerised traceability system for coffee sector commissioned.
- High school food safety curriculum developed (NB: not an activity in the logframe)

Highlights:

Project strengths	- General approach to formulation appropriate - Highly relevant - Focus on accreditation - Good technical advice
Project weaknesses	- Poor project cycle management - Weak stakeholder analysis and needs assessment - Insufficiently systematic approach - Key elements of NQS omitted from implementation

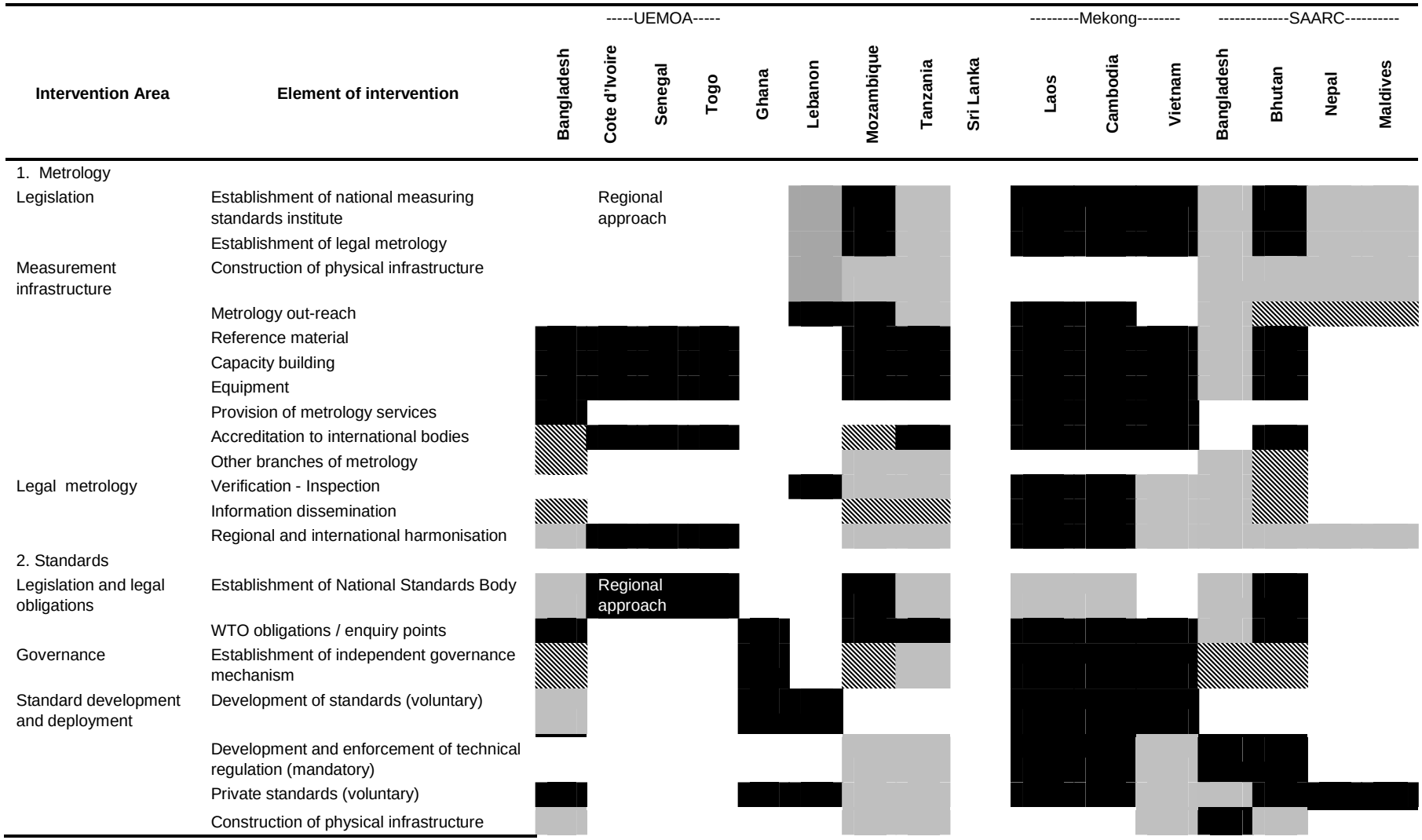
Contact:

Ulvinur Muge Dolun

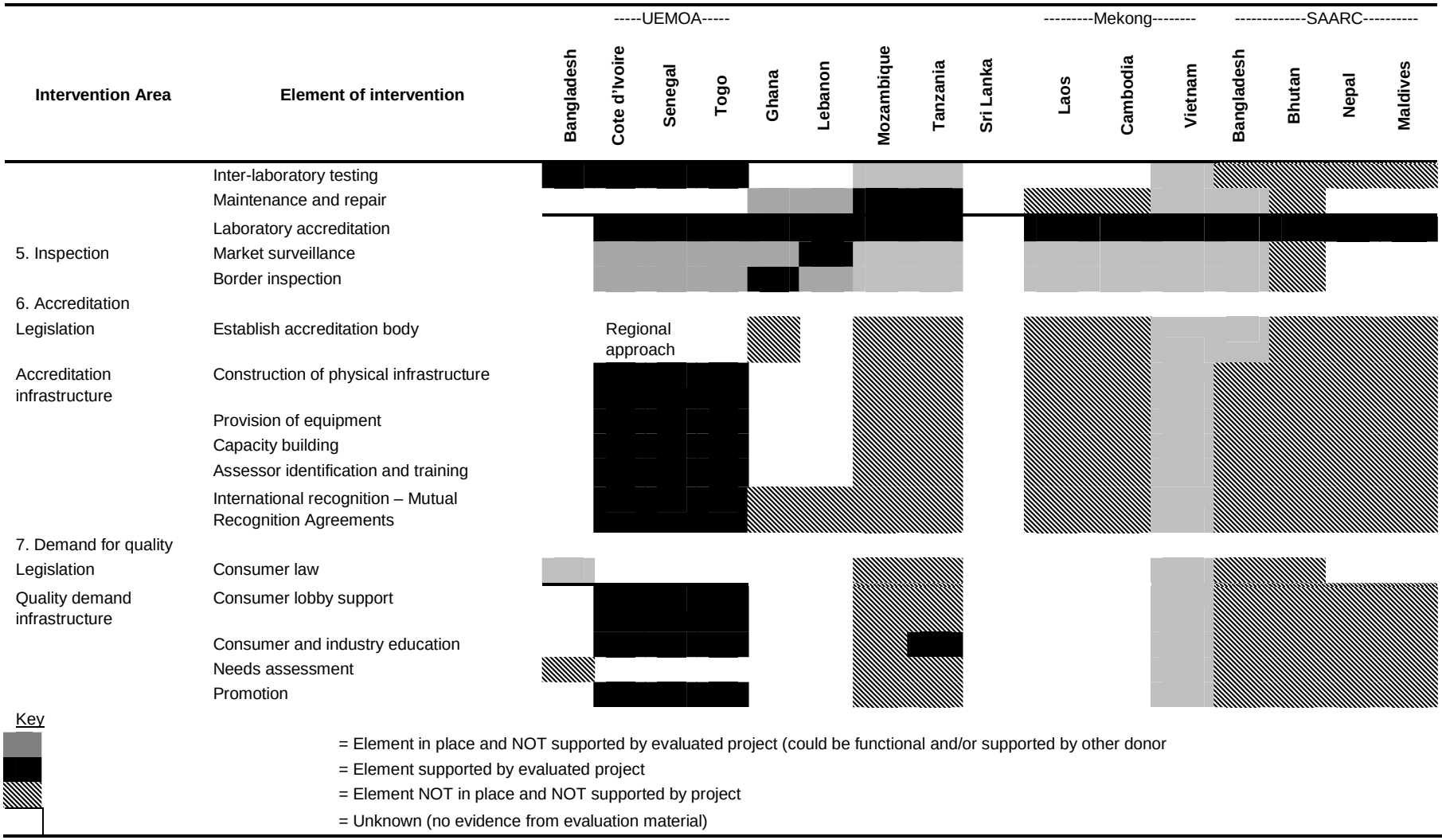
Information sources and key publications:

Bennett, B. and D. Keller (2008). Trade Capacity – Building: Enhancing the Capacities of the Tanzanian Quality Infrastructure and TBS/SPS Compliance Systems for Trade. Vienna, United Nations Industrial Development Organization.

Annex VI: Thematic SMTQ infrastructure map


-----UEMOA-----
---------Mekong--------
----------SAARC----------
Intervention Area
Element of intervention
Bangladesh
Cote d'Ivoire
Senegal
Togo
Ghana
Lebanon
Mozambique
Tanzania
Sri Lanka
Laos
Cambodia
Vietnam
Bangladesh
Bhutan
Nepal
Maldives
1. Metrology
Legislation
Establishment of national measuring standards institute
Regional approach
Establishment of legal metrology
Measurement infrastructure
Construction of physical infrastructure
Metrology out-reach
Reference material
Capacity building
Equipment
Provision of metrology services
Accreditation to international bodies
Other branches of metrology
Legal metrology
Verification - Inspection
Information dissemination
Regional and international harmonisation
2. Standards
Legislation and legal obligations
Establishment of National Standards Body
Regional approach
WTO obligations / enquiry points
Governance
Establishment of independent governance mechanism
Standard development and deployment
Development of standards (voluntary)
Development and enforcement of technical regulation (mandatory)
Private standards (voluntary)
Construction of physical infrastructure

Intervention Area	Element of intervention	Bangladesh	Cote d'Ivoire	Senegal	Togo	Ghana	Lebanon	Mozambique	Tanzania	Sri Lanka	Laos	Cambodia	Vietnam	Bangladesh	Bhutan	Nepal	Maldives
			-----UEMOA-----								---------Mekong--------			----------SAARC----------			
	Provision of equipment																
	Capacity building																
	Standards dissemination																
	Harmonisation																
	International recognition																
	Participation in international standard setting																
Conformity assessment																	
3. Certification																	
Certification infrastructure	System certification																
	• Quality management																
	• Food safety																
	• Environmental management																
	• Social accountability																
	• Occupational health and safety																
	• Others system certificates																
	Infrastructure development																
	Capacity building																
	Auditor training																
	Product certification																
	Certification marks		Regional approach														
	Traceability																
4. Testing	Product and process testing																
	Market research																
Testing infrastructure	Testing infrastructure																
	Capacity building																


-----UEMOA-----
---------Mekong--------
----------SAARC----------
Intervention Area
Element of intervention
Bangladesh
Cote d'Ivoire
Senegal
Togo
Ghana
Lebanon
Mozambique
Tanzania
Sri Lanka
Laos
Cambodia
Vietnam
Bangladesh
Bhutan
Nepal
Maldives
Inter-laboratory testing
Maintenance and repair
Laboratory accreditation
5. Inspection
Market surveillance
Border inspection
6. Accreditation
Legislation
Establish accreditation body
Regional approach
Accreditation infrastructure
Construction of physical infrastructure
Provision of equipment
Capacity building
Assessor identification and training
International recognition – Mutual Recognition Agreements
7. Demand for quality
Legislation
Consumer law
Quality demand infrastructure
Consumer lobby support
Consumer and industry education
Needs assessment
Promotion
Key
= Element in place and NOT supported by evaluated project (could be functional and/or supported by other donor
= Element supported by evaluated project
= Element NOT in place and NOT supported by project
= Unknown (no evidence from evaluation material)

Annex VII: References

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