

Standards

3.1 INTRODUCTION

Standardization has a long history. In more recent times, good standardization practices from a free-trade perspective have been codified in the World Trade Organization (WTO) Agreement on Technical Barriers to Trade (TBT Agreement) and in the decisions of its Committee on Technical Barriers to Trade (TBT Committee). To provide guidance on the development of international standards, this committee drew up a set of principles: (a) transparency, (b) openness, (c) impartiality and consensus, (d) effectiveness and relevance, (e) coherence, and (f) development dimension (WTO 2000). Organizations, such as the International Organization for Standardization (ISO) have added three more to this mix (ISO 2010): (g) stakeholder engagement, (h) due process, and (i) national implementation.

Although these nine principles were established for international standardization, they are as relevant for regional and national standardization, and they form the basis of good standardization practice (GSP) (see module 3, section 3.4, of the QI Toolkit). Other definitive documents providing guidance on standardization practices are the “ISO/IEC Directives, Parts 1 and 2: Procedures for Technical Work” (ISO 2017) and “ISO/IEC Guide 59: Code of Good Practice for Standardization” (ISO and IEC 1994).

The level of maturity of the country’s trade, technical regulation regime, industrial development, and other factors influences the maturity demanded of the national standards body (NSB). A four-level breakdown is shown in table 3.1. These maturity levels have to be taken into consideration when a comprehensive diagnostic evaluation of standardization is conducted, thereby influencing the qualitative and especially the quantitative outcome of the application of the various quality infrastructure (QI) building blocks. The building blocks of the NSB relating to the four pillars are listed in table 3.2.

To depict the pillars and building blocks in a graphical way that would indicate the state of standardization in a country at a glance, they can be put together as shown in figure 3.1. For a complete description of the construction, interpretation, and use of this graphic or of the matching radar diagram, see the earlier discussion in section 1: Comprehensive QI Assessment.

TABLE 3.1 Maturity levels of a country's national standards body, by factor

FACTOR	RUDIMENTARY (LITTLE QI IN PLACE)	BASIC (LOW- TO MIDDLE-INCOME COUNTRY APPROACH)	ADVANCED (ECONOMYWIDE APPROACH, SECTORAL APPROACH)	MATURE (INNOVATIVE, CUTTING-EDGE TECHNOLOGY)
International liaison and membership	None	Correspondent member of ISO Involved in affiliate country program of IEC	Member of ISO Associate member of IEC Member of CAC	Member of ISO and IEC Member of CAC and ITU
National technical committees (TCs)	None	A few TCs for nationally important products and services	A number of TCs for nationally important products and services	A large number of TCs relevant for the country's needs
Mirror committees for international or regional standardization	None	None	A small number for strategically important products and services	A number determined by the strategic importance of the national industry
Participation in international TCs	None	None	A few based on strategically important products or services for the country	A number based on the strategic influence the country wishes to have in international standardization
Standards development organizations (SDOs)	None	None	One or two SDOs, as relevant	Number of SDOs, as relevant
Standards information service	Rudimentary, at government department level	Rudimentary	Fully electronic access to national standards	Fully electronic access and sales for standards
Human resources	No training	Training on the job	Training on the job Training courses for TC chairpersons and secretariats	Training on the job Training courses for TC chairpersons and secretariats
Demand orientation	None	Demand surveys, mostly through projects	Demand surveys Stakeholder participation and consultative mechanism	Strong instruments and constructs to ensure demand orientation

Note: CAC = Codex Alimentarius Commission; IEC = International Electrotechnical Commission; ISO = International Organization for Standardization; ITU = International Telecommunication Union.

TABLE 3.2 Pillars and building blocks of the national standards body

PILLAR	BUILDING BLOCK	
	NO.	DESCRIPTION
1: Legal and institutional framework	1	Standards strategy
	2	Legal entity
	3	Autonomy
	4	Legal standing of national standards
	5	Governance
	6	Financial sustainability
2: Administration and infrastructure	7	Chief executive officer
	8	Organizational structure <ul style="list-style-type: none"> • Standards development and editing unit • Standards information unit • Public relations unit
	9	Management and personnel
	10	Premises
	11	Equipment
3: Service delivery and technical competency	12	Standard for a standard ^a
	13	Technical committees
	14	New project approvals and work program

continued

TABLE 3.2 *continued*

PILLAR	BUILDING BLOCK	
	NO.	DESCRIPTION
4: External relations and recognition	15	Committee process
	16	Relevance of standards
	17	Coherence of standards
	18	Public inquiry
	19	National standards
	20	National adoptions
	21	Standards information
	22	WTO TBT Inquiry Point ^b
	23	Training system
	24	Liaison with international organizations
	25	Liaison with regional organizations
	26	Coordination within the QI
	27	Standards development organizations (SDOs)
	28	Engagement with stakeholders

Note: QI = quality infrastructure.

a. “Standard for a standard” refers to the publication of all formal processes to be followed in the national standards development as a collective “standard for a standard” that is freely available to any interested party and can form the basis for the training of technical committee chairpersons and secretariats (see module 3, section 3.2.3, of the QI Toolkit).

b. The World Trade Organization (WTO) Technical Barriers to Trade (TBT) Inquiry Point is an official or office in a member government designated to deal with inquiries from other WTO members and the public on technical barriers to trade.

3.2 PILLAR 1: LEGAL AND INSTITUTIONAL FRAMEWORK

3.2.1 Benchmark and significance

The NSB must be an identifiable legal entity operating within an agreed-upon policy framework of the government. That is, the NSB should be recognized by the government as the pinnacle NSB mandated to represent the country in international organizations. Its mandate should include a clear and unambiguous statement regarding the development and publication of the national standards. Without such legal and policy backup, the NSB cannot fulfil its fundamental responsibility, namely, the development and publication of national standards.

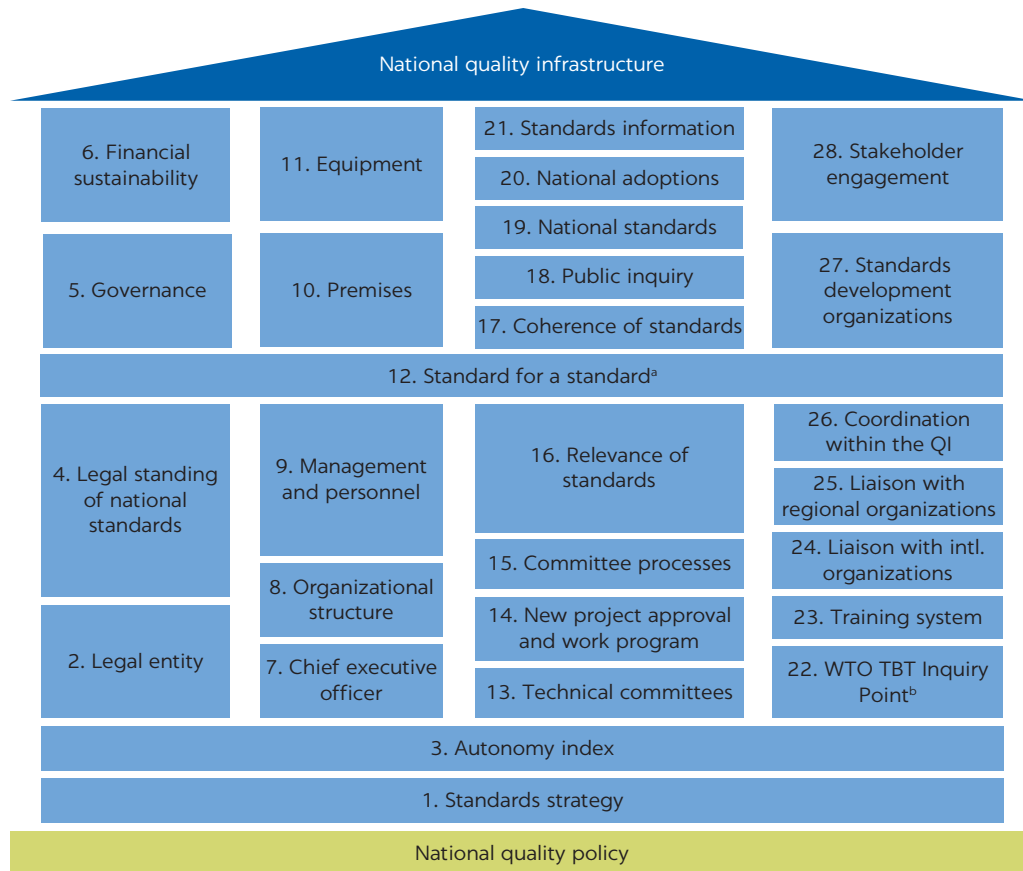
Regarding its governance, the NSB should follow a more open and transparent model, with stakeholders having a meaningful influence on strategy, rather than a top-down system controlled by public servants. The latter will stifle innovation and render the NSB less able to serve one of its main stakeholder groups—industry—effectively.

3.2.2 Standards strategy (building block no. 1)

What is meant

Major	<p>Following on from the quality policy (see subsection 2.1), a standards strategy gives meaning to the implementation of the quality policy regarding standards development, publication, and information. The standards strategy is about</p> <ul style="list-style-type: none"> • Making the right choices regarding the products to offer and the customers to focus on; • Getting stakeholder support for the NSB; and • Building capacity in the NSB to fulfill its role in the most innovative, effective, and efficient way.
-------	---

FIGURE 3.1
House of standardization for a national quality infrastructure



Note: QI = quality infrastructure. The four “pillars” of the QI—represented by the blue columns containing the “building block” numbers—are as follows (left to right): “legal and institutional framework,” “administration and infrastructure,” “service delivery and technical competency,” and “external relations and recognition.”

a. “Standard for a standard” refers to the publication of all formal processes to be followed in the national standards development as a collective “standard for a standard” that is freely available to any interested party and can form the basis for the training of technical committee chairpersons and secretariats (see module 3, section 3.2.3, of the QI Toolkit).

b. The World Trade Organization (WTO) Technical Barriers to Trade (TBT) Inquiry Point is an official or office in a member government designated to deal with inquiries from other WTO members and the public on technical barriers to trade.

How can it be demonstrated?

The standards strategy can be seen as an intended plan to set a pattern, create a unique position, follow a specific perspective, or implement a specific tactic—all to enable the NSB to make a difference to a critical mass of the right customers and to connect its purpose with those of its customers and external stakeholders (Minzberg, Ahlstrand, and Lampel 1998).

The standards strategy should be a formal document approved at least by the NSB board or council, and in some countries even by the minister or cabinet, depending on national custom and practice. It should be publicly available—that is, on the NSB website or in hard copy. The activities, business plans, and budgets of the NSB should be aligned with the standards strategy to ensure its implementation.

Existing information/reporting/monitoring

- NSB board or council papers
- NSB website

- Relevant ministry (for example, Trade and Industry) website
- Annual reports of the NSB

3.2.3 Legal entity (building block no. 2)

What is meant

Fundamental	The NSB shall be a legal entity, or a defined part of a legal entity, such that it can be held legally responsible for its standards development and publication activities. The NSB may be a governmental department, an institution of public law (such as a statutory body), a not-for-profit private company, or a for-profit private company.
-------------	--

How can it be demonstrated?

The NSB shall be established by legislation or articles of incorporation as relevant. Legislation may be a Standards Act or a similar law. Articles of incorporation are required for the NSB to be registered as a private company in terms of company legislation. The legislation or articles of incorporation must define, at a minimum, (a) the NSB's governance, financial provisions, and responsibilities and functions; and (b) the development, publication, and legal standing of national standards (if the NSB is a governmental body). The responsibilities should include representing the country in international standards forums.

If the NSB is a private company, then a formal agreement must exist between the NSB and the government in which the NSB is given the mandate to operate as the NSB, to develop and publish national standards, and to represent the country at the international level regarding standardization. In this case, the legal standing of national standards must additionally be defined in a legally defensible way.

To ensure that the responsibilities and functions of the NSB remain relevant in a changing international and regional standards environment, the legislation or articles of incorporation should be reviewed and modernized every five to eight years. The same applies to the formal agreement between the government and the NSB as a private company. Failure to do so could hinder the NSB in playing its national, regional, or international roles effectively and efficiently in the medium to long term.

Existing information/reporting/monitoring

- Standards Act, decree, regulation, or similar law
- Articles of incorporation as a private company
- NSB's website and annual reports

3.2.4 Autonomy (building block no. 3)

What is meant

Major	It is good practice for an NSB to move toward a market-economy model of increased institutional autonomy, as opposed to being fully controlled by government. This model gives it the management responsibility and freedom to operate effectively in the marketplace (Racine 2011).
-------	--

How can it be demonstrated?

There are generally nine elements that can be considered to determine a legal autonomy index of the NSB. This is not an absolute number but a good indicator. Does the NSB have the autonomy and the authority to

- Adopt and revoke standards;
- Determine the positions and staffing of its workforce;
- Determine the salaries of its workforce;
- Select its workforce;
- Create new administrative divisions;
- Determine its own budget;
- Determine the fees of standards publications;
- Offer new services or initiate new activities; and
- Solicit membership in international or regional standardization organizations and sign international agreements?

Existing information/reporting/monitoring

- Standards Act, decree, regulation, or similar law
- Articles of incorporation as a private company
- NSB council or board policy papers
- NSB’s website and annual reports
- Government regulations regarding rules of employment (if the NSB is a governmental body or a body of public law)

3.2.5 Legal standing of national standards (building block no. 4)

What is meant

Major	National standards can be the basis of technical regulation or can be referenced directly in the same; they can form part of contractual obligations between the purchaser and supplier; and they can be indicators of good practice in court proceedings. Therefore, it is good practice to provide them with authoritative standing within the legal system of the country, even though they are considered to be voluntary in their application in the WTO TBT Agreement context.
-------	--

How can it be demonstrated?

In the Standards Act or a similar law, national standards are given standing within the legal system of the country, and normative-type documents published by other entities should not enjoy this privilege. In some countries, this means approved national standards have to be listed in the official government journal or gazette at least by number and title. The same applies to revised or withdrawn national standards. Furthermore, regulatory authorities must be given the mandate to reference national standards by number and title in legislation (typically in technical regulations, sanitary and phytosanitary [SPS] measures, and the like) without having to replicate the complete text of the standard. This mandate confers legislative legitimacy on the national standard.

Existing information/reporting/monitoring

- Standards Act, decree, regulation, or similar law
- Formal agreement between the NSB and government
- Official government journal, gazette, or similar publication

3.2.6 Governance (building block no. 5)

What is meant

Fundamental	The NSB should have a board or council in charge of strategy approval and overall fiduciary responsibilities, whether the board or council is appointed by a relevant minister or by shareholders (in the latter case, if the NSB is a private company).
-------------	--

Major	Good governance models suggest that the members of the board or council should be individuals with specific knowledge regarding standardization and market realities.
-------	---

How can it be demonstrated?

The actual composition of the council or board must be considered. The number of members, as well as the balance between industrialists, academia, and public servants is important. The more-progressive NSBs have more industrialists than public servants on their councils or boards. The industrialists are appointed in their individual capacities and not as representatives of business or industry associations. Lower-level functionaries of business or industrial associations are not the greatest representatives of those associations to include on a council or board.

The members of a council or board, however appointed, should be selected for their knowledge, experience, or qualifications relating to the functions of the NSB, particularly regarding business management, finance, marketing, local and international standardization, and technical infrastructure matters (ISO and UNIDO 2008). The council or board should include 12–15 members. Depending on the custom and practice of the country, good governance principles suggest that the chief executive officer (CEO) of the NSB should be a full member of the council or board. Whatever the case, the CEO should only be an ordinary member of the council or board (that is, he or she is not allowed to hold the position of chair or vice-chair) to ensure proper oversight of the NSB by the council or board.

The council or board should have the mandate or authority to (a) approve the business, standards, and marketing strategies of the NSB; (b) appoint the CEO and consider his or her performance; (c) oversee the financial integrity of the NSB; (d) approve the budget and monitor performance of the NSB against the budget; (e) approve the organizational structure; (f) establish the standards approvals committee; and (g) hear final appeals against approved standards.

Existing information/reporting/monitoring

- Standards Act, decree, regulation, or similar law
- Articles of incorporation as a private company
- NSB council or board policy papers
- NSB's website and annual reports
- Government regulations regarding public entities
- NSB council or board committee structures

3.2.7 Financial sustainability (building block no. 6)

What is meant

Fundamental	The finances for the NSB can be provided from government sources, membership fees, sales of standards and information, financial support from industry and other stakeholders, and profits generated by conformity assessment services (ISO 2010). Whatever the source of funding, there should be assurances that it would be adequate also in the medium to long term.
-------------	--

How can it be demonstrated?

For most NSBs, especially in low- and middle-income countries, sales of standards are nowhere near sufficient to cover the cost of standards development and publication. Therefore, for government-type NSBs (see section 3.2.3), the

bulk of the finances will probably be provided through government budgets. For private sector NSBs, profits from conformity assessment services are frequently the major source of funding. Care should be taken that the provision of finances does not unduly influence the decisions on the development of standards as determined by demand of the broader stakeholders.

The NSB's overall financial situation of the past three to five years would be a good indication of its financial sustainability. The situation should show a positive trend over the years under review. The income generated from standards sales would be a further indicator that should show a positive trend. A formal government commitment to support the NSB in its standards development, publication, and information activities, as well as specific financial support for its international and regional liaison activities, are positive indicators of the NSB's financial sustainability.

Existing information/reporting/monitoring

- National quality policy
- Annual government budget allocations
- Annual reports of the NSB
- Monthly and annual financial statements of the NSB
- Monthly figures for standards sales

3.3 PILLAR 2: ADMINISTRATION AND INFRASTRUCTURE

3.3.1 Benchmark and significance

Form follows function, and the organizational structure of the NSB should be conducive to providing the full complement of standardization services effectively and efficiently according to the needs of its stakeholders. Good governance principles require the NSB to have a proper management executive, and the standards value chain indicates that the NSB should have divisions dedicated to the development of standards; editing and publication of the same; and a standards information service ably supported by the necessary corporate services, such as finance, human resources, training, and facility services. If the NSB also provides conformity assessment services, then the organizational structure should ensure that standards development is independent from other business influences.

3.3.2 Chief executive officer (building block no. 7)

What is meant

Fundamental	The chief executive officer (here referred to as the CEO, whatever the actual title) is responsible for leading the development and execution of the NSB's long-term strategy with a view to fulfilling its reason for existence. The CEO acts as a direct liaison between the board or council and management of the NSB and communicates to the board or council on behalf of NSB management. The public face of the NSB is the CEO rather than the chair of the board or council. The CEO could be a full member of the board or council, depending on the custom and practice of the country; but whatever the case, the CEO should only be an ordinary member of the council or board (that is, he or she is not allowed to hold the position of chair or vice-chair) to ensure proper oversight of the NSB by the council or board.
-------------	---

Minor	Depending on the legislation, custom, and practice relevant to the NSB, the CEO may be appointed by the relevant minister or the board or council. Recent tendencies suggest that the CEO should be appointed for only a limited period, typically five years. He or she can be reappointed if relevant key performance indicators are more than fulfilled.
-------	---

How can it be demonstrated?

There is no standardized list of an NSB CEO's major functions and responsibilities, but the typical functions include the following:

- Supports operations and administration of the board or council by advising and informing its members, interfacing between the board or council and the staff, and supporting the board or council's evaluation of management executives
- Oversees the design, marketing, promotion, delivery, and quality of programs, products, and services regarding standardization
- Recommends the annual budget for board or council approval and prudently manages the NSB's resources within those budget guidelines according to current laws and regulations
- Effectively manages the human resources of the NSB according to authorized personnel policies and procedures that fully conform with current laws and regulations
- Ensures that the NSB and its mission, programs, products, and services are consistently presented with strong, positive images to relevant stakeholders
- Oversees fundraising planning and implementation, including identifying resource requirements, researching funding sources, and establishing strategies to approach funders

Existing information/reporting/monitoring

- Relevant legislation (Standards Act or similar law) or articles of incorporation
- Official ministerial decisions
- Board or council decisions and minutes
- Official CEO job description
- Agreed-upon CEO key performance indicators

3.3.3 Organizational structure (building block no. 8)

What is meant

Major	The standards value chain has a number of distinct elements: (a) standards development; (b) editing, approval, and publication; and (c) standards information. It therefore follows that the organizational structure of an NSB should have divisions that optimally support this standards value chain.
Major	Furthermore, because standards services are seldom self-sufficient in low- and middle-income countries and have to be funded by government, the organizational structure should facilitate the determination of these finances.
Major	The funding of the development and publication of standards by the state or another stakeholder should not negatively affect the independence of the NSB in making appropriate decisions regarding the choice of standards to be developed in accordance with appropriate demand assessments.

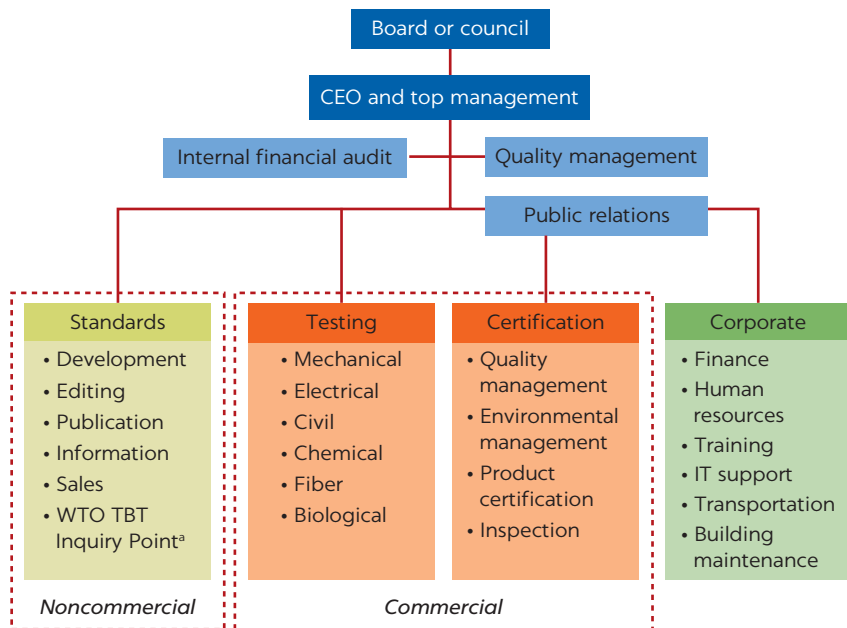
How can it be demonstrated?

A typical organizational structure of an NSB that also provides conformity assessment services is shown in figure 3.2. This would be the case for the vast majority of ISO members that are low- or middle-income countries. Another possibility could be that the organization serving as the NSB is also the national accreditation body, in which case the conformity assessment departments would be replaced by the necessary accreditation departments. In a few instances, the NSB would only be responsible for the development and publication of national standards, in which case the standards divisions and support divisions would be the only relevant ones.

A clean structure (figure 3.2) will enable clear identification of the finances for the standards activities for the common good, which may have to be funded by government in most low- and middle-income countries. Conformity assessment services that can be considered commercial should be fully paid for by the customers. The corporate services are overhead, and these can be allocated to the other divisions in an equitable manner.

As for the organizational structure within the standards department, it is important that the editing division be completely separated from standards development divisions because editing is the final quality control on the integrity of draft standards before they are approved. Standards development can consist of a number of sectoral divisions, depending on the number of technical committees that have to be managed. In smaller NSBs, standards information, sales, and the WTO TBT Inquiry Point are frequently combined. The inclination to attach the TBT Inquiry Point to the office of the CEO (because it supposedly

FIGURE 3.2
Typical NSB organizational structure in a low- or middle-income country



Note: CEO = chief executive officer; IT = information technology.
 a. The World Trade Organization (WTO) Technical Barriers to Trade (TBT) Inquiry Point is an official or office in a member government designated to deal with inquiries from other WTO members and the public on technical barriers to trade.

deals with high-level foreign entities) is counterproductive; it should remain close to the standards information center.

Existing information/reporting/monitoring

- Approved organizational structure
- Board or council decisions
- Ministerial decisions
- Financial system documentation

3.3.4 Management and personnel (building block no. 9)

What is meant

Major	Standards development, publication, and information are largely people-based activities operating within formal processes supported by an effective information technology (IT) system. Management and personnel must therefore have the appropriate skill sets assured by appropriate training, qualifications, and experience. These would include management and technical knowledge, project management skills, and language proficiency as required by the various activities of the standards value chain.
-------	--

How can it be demonstrated?

In the first place, the NSB should operate with an organizational structure approved by either the board or council or the relevant minister. For each of the positions, the skill set (qualifications, training, and experience) should be clearly and formally stated. The ratio between technical and administrative staff is a good indicator of efficacy, with administrative staff being no more than 20 percent of the total a good guideline.

Second, there should be few staff vacancies on either the management or technical levels; more than 95 percent of those positions should remain filled. Anything less indicates that the NSB cannot operate effectively or efficiently. Staffing challenges often include a lack of skilled people in the country, but even more so, inadequate remuneration (resulting in the departure of trained staff for more lucrative offers elsewhere).

Existing information/reporting/monitoring

- Approved organizational structure
- Actual staffing levels
- Staff turnover figures

3.3.5 Premises (building block no. 10)

What is meant

Minor	As a premier QI organization, the NSB should occupy premises appropriate to its status, and the premises should facilitate optimum service delivery. The premises should be situated in an area accessible to its customers. Environmental disturbances and challenges should be kept to a minimum.
-------	---

How can it be demonstrated?

In the first place, the premises of the NSB should create the feeling of professionalism and be inviting; occupying a run-down, dirty government building is not a good idea. In the same vein, the premises should not be so pretentious

that customers get an impression of money spent unnecessarily on wasted space and gimmicks. Access to the premises should be relatively easy; that is, having them in the middle of the city with congested traffic conditions is not a good idea, nor is locating them on the city's outskirts far from everything and everybody. Poor siting will make it difficult for customers to reach the NSB and be a disincentive for members of technical committees to attend meetings.

Over and above the necessary office space for the staff, the premises should have a number of meeting rooms of appropriate size and IT support for holding technical committee meetings. The standards information center should be easily accessible from the main entrance, preferably directly. It should also be given special attention because it is often the first encounter that customers will have with the NSB. As such, it should exude an aura of professionalism and modern design as an information center. It should have ample space for customers to browse through standards, and standards sales should be adjacent to it, making the whole experience of obtaining standards information and purchasing standards a pleasurable one.

Existing information/reporting/monitoring

- Consideration of the NSB premises in relation to design, access, and maintenance
- Review of technical committee meeting rooms and facilities
- Review of the standards information center

3.3.6 Equipment (building block no. 11)

What is meant

Major	The development of standards has become totally reliant on electronic media. The NSB should therefore have a modern IT system and good connectivity to the Internet. Technical committee rooms and the standards information center should be appropriately equipped (for example, with digital projection, monitors, and so on). Staff should have access to computers and a workable intranet system.
-------	---

How can it be demonstrated?

The Internet connection of the NSB should be of a high quality. Communications between the NSB and its peers elsewhere in the world and with regional and international standards organizations are totally electronic; that is, fast download bit rates and uncapped data are required. Staff members, especially those involved in standards development and information, should have computers linked to an efficient intranet system.

In the standards information center, an adequate number of monitors should be provided on which customers can browse through national, regional, and international standards without NSB staff having to print anything. A print-on-demand system should be available to print the standards that customers wish to purchase while they wait a few minutes.

Existing information/reporting/monitoring

- Consideration of the NSB intranet system and its connectivity to the Internet in relation to access and maintenance
- Review of availability of IT equipment and services to relevant staff
- Review of the standards information center's IT equipment and maintenance

3.4 PILLAR 3: SERVICE DELIVERY AND TECHNICAL COMPETENCY

3.4.1 Benchmark and significance

No international standards have been published that standards bodies can use for evaluating their own competence, as is the case for metrology institutions (for example, in ISO/IEC 17025, “General Requirements for the Competence of Testing and Calibration Laboratories”) or for accreditation bodies (for example, in ISO/IEC 17011, “Conformity Assessment—General Requirements for Accreditation Bodies Accrediting Conformity Assessment Bodies”). Hence, no international peer recognition systems exist for standards bodies as they do for metrology (the International Bureau of Weights and Measures [BIPM] and International Organization of Legal Metrology [OIML]) and for accreditation (the International Laboratory Accreditation Cooperation [ILAC] and International Accreditation Forum [IAF]).

There are, however, internationally agreed-upon principles that form the basis of good standardization practice (GSP) that standards bodies can and must aspire to. GSP includes the methods or techniques that (a) have been generally accepted as superior to any alternatives because they produce results superior to those achieved by other means, and (b) have become a standard way of doing things regarding the development and publication of standards and related information systems.

Six of these principles have been codified in the WTO TBT Agreement and in decisions of its Committee on Technical Barriers to Trade (WTO 2000), as discussed further in module 3, section 3.4, of the QI Toolkit: transparency; openness; impartiality and consensus; effectiveness and relevance; coherence; and development dimension. Organizations, such as the ISO, added three more to this list (ISO 2010): stakeholder engagement, due process, and national implementation.

Although these nine principles were established for international standardization, they are just as relevant for regional and national standardization. Other definitive documents include the ISO/IEC Directives, Parts 1 and 2 (ISO 2017), and “ISO/IEC Guide 59: Code of Good Practice for Standardization” (ISO and IEC 1994). The former guide the international standards development process, but they can likewise be made applicable to regional or national standards bodies.

A few of the high-income economies are “standards makers” at the international level. Low- and middle-income countries, on the other hand, are invariably “standards takers”; that is, they adopt international standards rather than developing indigenous standards from basics. This has a marked influence on the format of their national standards: namely, 80–90 percent of their national standards would be adoptions of international standards. The standards development process should be shaped accordingly.

3.4.2 Standard for a standard (building block no. 12)

What is meant

Major	The standards development and publication process must be open and transparent. The process must be publicly known, and the NSB must abide by it.
-------	---

How can it be demonstrated?

The best-practice model to make the standards development and publication process publicly known is to develop, approve, and publish a “standard for a standard.” This normative document will include the principles for the complete standards development process—from approval of a new work item, the technical committee stages, and public inquiry to the editing, approval, and final publication of the standard, including regular review of the standard over time. It should also include a process to appeal the publication of specific standards. The process must be based on the internationally agreed-upon standards development value chain, as provided for in the ISO/IEC Directives, Parts 1 and 2 (ISO 2017), and as transcribed for the national situation. The “standard for a standard” should be made available free of charge to any interested party.

The “standard for a standard,” which primarily contains the principles of the standards development process, must be supported by NSB internal procedures and work instruction-type documents aligned with the “standard for a standard” that guide the activities of the whole standards department. These should be part and parcel of the quality management system operated by the NSB and subject to documentation control—for example, as provided for in ISO 9001 (“Quality Management Systems—Requirements”).

Existing information/reporting/monitoring

- Standards catalog
- Quality management system documentation

3.4.3 Technical committees (building block no. 13)**What is meant**

Fundamental	Standards are developed by technical committees (including subcommittees and working groups) as established by the NSB, yet they are representative of interested parties coming from the broader stakeholder group of the NSB. Interested parties could include ministries, public authorities, business, industry, consumers, academia, and civil society.
Fundamental	Membership of technical committees should be open to all but should be balanced; that is, no interested party should be able to dominate.

How can it be demonstrated?

When establishing a technical committee, the NSB should map its stakeholders for that committee. Thereafter, the NSB should communicate directly with possible interested parties, inviting them to participate. At the same time, the NSB should publicly announce the same on its website, for example, to ensure that unidentified interested parties can also be reached. The NSB should make a special effort to involve consumer groups and civil society because these stakeholders do not always have the people resources to participate.

The invitation should require the interested party to nominate a specific member and provide contact details. The establishment of the technical committee is approved by the NSB executive management or the board or council, as relevant. The NSB should try to achieve a reasonable balance of interested parties on the technical committee.

The NSB should retain the secretariat of the technical committee because this facilitates project management and compliance with the WTO TBT Agreement requirements to make known the overall work program of standards

development once every six months. It is good practice to select the chair from among the participants, either by the technical committee's participants themselves or by the NSB. The tenure of the chair could be limited (for example, to three to five years) to give the NSB an elegant way to replace the chair if he or she is not performing appropriately.

The scope of each technical committee should be such that it can develop a meaningful number of standards. Where the NSB also participates in international or regional technical committees, it is useful to align the scope of the national committee with that of its regional or international counterpart—that is, establishing it as a “mirror committee.” In this way, national positions regarding the regional or international standard can be developed and brought to the attention of the regional or international committee. Such a construct also facilitates the voting process for regional and international standards.

Existing information/reporting/monitoring

- Formal procedures for establishing technical committees
- List of technical committees, their scopes, secretariats, and chairs
- Membership lists of technical committees
- Annual evaluation of the performance of chairs and secretariats

3.4.4 New project approval and work program (building block no. 14)

What is meant

Major	Requests for the development of a new standard could come from many sources. The NSB must evaluate the request for relevance and add it to its work program, if appropriate and if resources are available.
Fundamental	The work program must be made known publicly every six months in a manner compliant with WTO TBT Agreement requirements.

How can it be demonstrated?

The NSB should follow a formal procedure for evaluating requests for the development of a standard. This process should be ongoing, not conducted only once a year or every six months. The procedure should include elements, such as the following:

- Determination of the standard's net value to the country
- Determination of whether development of the standard can be allocated to a current technical committee or whether a new technical committee must be established
- Availability of resources (for example, budget, human resources, and so on)
- Availability of international or regional standards that could be adopted or form the basis of the national standard
- The priority of the work
- Risks to be managed that could work against successful completion of the standard's development

At least once every six months, the standardizing body must publish a work program containing its name and address, the standards it is currently preparing, and the standards it has adopted in the preceding period—all as required by the WTO TBT Agreement. A standard is under preparation from the moment a decision has been made to develop a standard until the time that standard has been approved. The work program shall, for each standard, indicate the classification

relevant to the subject matter, the stage attained in the standard’s development, and the references of any international standards taken as a basis. Best practice is to publish the work program on the NSB website, but its existence must be notified to the ISO.

Existing information/reporting/monitoring

- Formal procedure for new project approvals
- New project evaluation documentation
- NSB website
- Formal notification to the ISO Central Secretariat

3.4.5 Committee processes (building block no. 15)

What is meant

Major	The technical committee should meet at appropriate intervals to facilitate regular attendance by all interested parties. Meeting documents must be circulated well in advance of the meeting to enable members to prepare themselves. Discussions should focus on the technical content of draft standards and less on editorial matters. All members should be given ample opportunity to participate actively.
Fundamental	Decisions should be reached by consensus.
Minor	The technical committee should develop a business plan and update it annually to guide its activities.

How can it be demonstrated?

Appropriate intervals for the meetings of technical committees could be anything from once a month to once every three months, depending on the circumstances and urgency of completing the work. Meetings scheduled weekly are counterproductive because business and industry representatives will be unlikely to attend so often owing to work pressures, and the same is true for interested parties stationed far away from the meeting venue.

Working documents, minutes, and agendas for technical committee meetings should be circulated at least two weeks beforehand. Minutes of meetings should be available within a week after the meeting. Discussions at the meeting should focus on technical issues and less on editorial matters or even on trying to translate an international standard into the local language. Translations should be provided by the NSB beforehand.

Reaching decisions by consensus is important, and application of the ISO definition of a consensus in “ISO/IEC Guide 2 Standardization and Related Activities—General Vocabulary” (ISO and IEC 2004) should be the guideline. Although voting (with appropriate criteria) is used at the regional and international levels as a measure of consensus, it may not be a good idea at the national level. The arguments as to who is eligible to vote can render such a process problematic. At the regional and international levels, the matter is less problematic because only member countries are eligible to vote.

The use of modern IT equipment (for example, computers and digital projection) during the meeting is a useful mechanism to capture decisions for all members to see as the meeting progresses, and at the end of the meeting the updated working document can be distributed immediately.

Existing information/reporting/monitoring

- Standard for a standard
- Formal technical committee meeting procedures

- Technical committee business plans
- Schedules of technical committee meetings
- Working documentation of technical committees and their circulation
- Minutes of technical committee meetings

3.4.6 Relevance of standards (building block no. 16)

What is meant

Fundamental	Standards must facilitate trade, prevent unnecessary trade barriers, not distort the market, respond to regulatory and market demands, and take technological development into account.
-------------	---

How can it be demonstrated?

To address all of these requirements, standards should be as follows:

- *Based on performance criteria rather than on a definitive description of characteristics*, even if this seems to be a worthy attribute to be included. Technology develops, and such development may be stifled if the standard is prescriptive regarding characteristics, whereas new technologies can be tested against performance requirements.
- *Developed with consideration of the latest technology*, even though standards are mostly based on proven technology.
- *Meet demonstrable market or regulatory demands*. If not, then the standard will not be used, and the resources spent in developing the standard would have been wasted. Hence, such demonstrable demands should feature strongly in the decision making of whether to develop the standard.
- *Reviewed at least once every five years, in accordance with GSP for published standards*. For some technologies that develop quickly, even five years may be too long an interval between reviews. Some standards may not change; for example, a standard for a brick may have not changed in decades, but it is still useful to review the standard. If nothing has changed, then the standard is reaffirmed. If things have changed, then the standard could be amended, revised, or sometimes even withdrawn if it is no longer in use.
- *Developed with meaningful liaison with international and regional standards organizations*. Using their standards as the basis of national standards, even adopting them without change, can go a long way toward keeping the national standards effective and relevant. For low- and middle-income countries, 60–80 percent adopted standards is a good target.

Existing information/reporting/monitoring

- Standard strategy
- Standard for a standard
- New work-item approval criteria
- Internal standards development procedures
- Percentage of national standards based on international standards
- Percentage of standards more than five years old
- List of standards not reviewed within five years

3.4.7 Coherence of standards (building block no. 17)

What is meant

Major	The body of standards should not have any overlaps in scope between standards, nor should the same commodity or service be dealt with in two or more standards with the possibility of differences in requirements.
-------	---

How can it be demonstrated?

The NSB should ensure that its technical committees, especially those that have scopes that could overlap, do not develop standards with conflicting requirements. For example, one technical committee is looking at a standard for a washing machine, whereas another technical committee is looking at the electrical safety of household appliances. If the NSB is not careful, then both may end up including safety requirements in their respective standards that may differ.

Second, if the NSB has “recognized” a number of standards development organizations (SDOs) (see building block no. 27), it can happen quickly that an SDO and the NSB are both managing technical committees whose scopes of activity overlap ever so slightly or even totally. This can lead to a situation where two differing national standards for exactly the same commodity are being developed—for example, a national standard for bottled water developed by the Ministry of Health, on one hand, and another by the NSB technical committee on potable water, on the other hand.

Existing information/reporting/monitoring

- Standards strategy
- Standard for a standard
- Scopes of technical committees of NSB and SDOs
- Editing manual

3.4.8 Public inquiry (building block no. 18)***What is meant***

Fundamental	Once the technical committee has completed work and reached a consensus on the draft standard, the standard must be circulated for public comment for 60 days in accordance with the WTO TBT Agreement.
-------------	---

How can it be demonstrated?

The draft standard, as completed by the technical committee, may be edited before it is circulated for public comment, although this is not a must. The draft standard can be circulated to specified interested parties, but it should also be made available on the NSB website as a general notice and, if relevant, maybe also to the sectoral press of the country (for example, an engineering weekly, monthly food-related magazine, business association magazine, and so on). On the NSB website, the number, title, and scope of the draft standard should be listed, as well as a contact point where it can be obtained (for which a fee may be charged).

Interested parties should be asked to provide comments on the draft standard, and they should be given 60 days to do so. All the comments should be collated by the NSB and submitted to the relevant technical committee for consideration and decision. The technical committee may invite specific interested parties to a meeting to explain their comments further if of a substantive nature. Interested parties should be given formal feedback as to whether their comments had been accepted.

Existing information/reporting/monitoring

- Standard for a standard
- Internal standards development procedures

- Records of public comment periods
- NSB website
- Records of collated comments
- Technical committee records and minutes
- Formal feedback to interested parties on comments

3.4.9 National standards (building block no. 19)

What is meant

Major	The final draft standard should be edited to ensure its compliance with stated norms.
Fundamental	Once approved or adopted, the standard needs to be published promptly.
Major	Published standards should be reviewed at least every five years to ensure their continued relevance.

How can it be demonstrated?

Final draft standards, which include relevant comments from the public inquiry (see building block no. 18), need to be edited by an editing division independent from the technical committee and secretariat. Editing ensures that the standard follows the agreed-upon format, that the language is understandable, and that references and cross-references are correct. It is the final quality control step in the standards development process.

After editing, the final draft standard needs to be approved promptly, whether by the NSB board or council or by a standards approvals committee. The latter can be established by the board or council as one of its committees, or it may be established by legislation or articles of incorporation of the NSB. The board, council, or standards approvals committee should ensure that all appropriate steps in the standard's development have been fulfilled, and it is the final arbiter in the case of an appeal against the final draft standard. The standard should not be approved by the technical committee.

Once approved, the standard should be promptly made available to customers. This means the standard should be taken up in the standards catalog, made known on the NSB website, and offered for sale. Standards may be sold in hard copy or electronically. Electronic copies are replacing hard-copy sales, even though hard-copy sales are still required for customers with limited access to the Internet. Failure to provide for Internet sales will harm sales figures.

The approved standards should be reviewed at least once every five years to ensure their continued relevance (see building block no. 16). Hence, all newly approved standards should be placed on lists of a formal review program. Reviewed standards should be reaffirmed if still relevant, amended or revised if need be, or withdrawn if no longer relevant or needed. Their status after review should be indicated in the standard and catalog.

Existing information/reporting/monitoring

- Board or council minutes
- Standards approvals committee minutes
- Standards sales information and records
- Standards catalog
- Analysis of average age of standards
- List of standards older than five years

3.4.10 National adoptions (building block no. 20)

What is meant

Fundamental	Where international standards exist or their completion is imminent, the standards body shall use them, or the relevant parts of them, as a basis for the standards it develops, except where such international standards or relevant parts would be ineffective or inappropriate—for instance, because of an insufficient level of protection, fundamental climatic or geographical factors, or fundamental technological problems (WTO 1995).
-------------	--

How can it be demonstrated?

NSBs should ensure that the national standards developed in their technical committees are based on international standards in the first place. The best practice would be to adopt them without change. If changes are necessary, then there should be good reasons for doing so, because changes could be interpreted as an unnecessary trade barrier. “ISO/IEC Guide 21: Regional or National Adoption of International Standards and Other International Deliverables” should be used in identifying the extent to which standards are based on international standards, as follows (ISO and IEC 2005):

- *Identical*, which includes a direct translation but no editorial, structural, or technical changes
- *Modified*, which may include editorial changes but no structural or technical deviations, provided that the editorial changes are clearly indicated in the text of the standard
- *Not equivalent*, which includes editorial changes and technical deviations, even though the international standard may have served as the basis for the national standard

For most low- and middle-income countries, 80–90 percent of national standards have involved adoption of international standards. The remainder would be indigenous standards for which (a) no equivalent international standards exist, or (b) adoption of international standards would be totally inappropriate.

Existing information/reporting/monitoring

- Number and percentage of international standards adopted as national standards
- Standard for a standard
- Internal NSB procedures

3.4.11 Standards information (building block no. 21)

What is meant

Major	The NSB must provide information on national, regional, and international standards to interested parties in the most efficient way.
-------	--

How can it be demonstrated?

In the first place, the NSB standards information center should be fitted with adequate IT equipment such that interested parties can browse through national, regional, and international standards before having to make a purchase or just for obtaining information. It should be staffed with knowledgeable standards information officers who can assist interested parties. Purchase of chosen

standards should be possible, and these should be provided by a modern print-on-demand system, which is more efficient than printing thousands of standards in hard copy when they are approved.

Second, the NSB should operate an Internet-based information service through which interested parties can access information and also purchase standards online. Failure to provide such a service will cost the NSB dearly because would-be purchasers will go elsewhere. In all cases, the necessary measures to protect the copyright of standards must be in place.

Existing information/reporting/monitoring

- Extent of the standards information and sales services
- Standards sales figures
- Copyright protection measures

3.5 PILLAR 4: EXTERNAL RELATIONS AND RECOGNITION

3.5.1 Benchmark and significance

Standards have become totally internationalized, with only a few countries recognized as “standards makers.” Even though most low- and middle-income countries are “standards takers,” it is still important that their NSBs have a strategic presence in regional and international standards development to represent national interests and to serve as a conduit of timely information for local industry and government on future technological and market developments.

3.5.2 WTO TBT Inquiry Point (building block no. 22)

What is meant

Fundamental	The WTO TBT Inquiry Point must, on request, be able to provide information to WTO member states with regard to standards, technical regulations, conformity assessment services, and regional or international memberships related to these.
Minor	The WTO TBT Inquiry Point may provide additional services related to an early warning system for exporters, providing information on imminent technical regulations to be implemented by trading partners.

How can it be demonstrated?

The national WTO TBT Inquiry Point—whether or not the NSB is designated as such (as is the case for more than 80 percent of WTO members)—must be able to provide the following information on request:¹

- National standards: published and under development
- Technical regulations: implemented and under development
- Membership of regional structures
- Conformity assessment systems in the country
- Conformity assessment recognition agreements

In the past, some national WTO TBT Inquiry Points provided additional services for the common good, such as the following “export alert” type of information:

- Continuous analysis of the notifications of WTO member states, especially regarding new technical regulations that could be of interest to local industry and authorities

- Dissemination of such information to interested parties, which could have registered their interests beforehand
- Collation of comments on notified technical regulations for use by country representatives at WTO TBT Agreement Technical Committee discussions

The first two of these additional services are now accessible through the e-ping service (<http://www.epingalert.org>)—provided by the WTO, the International Trade Centre (ITC), and the United Nations—that analyzes notifications of WTO member states. NSBs should direct their stakeholders accordingly, but the NSB can still make a useful contribution by soliciting comments on notifications important to the country for the country representatives in Geneva at the WTO TBT Agreement Technical Committee.

Existing information/reporting/monitoring

- Extent of services provided by the national WTO TBT Inquiry Point
- Records of inquiries submitted over time
- Website of the NSB
- Database of the NSB regarding WTO TBT notifications

3.5.3 Training system (building block no. 23)

What is meant

Major	To ensure consistently high quality in standards development, the NSB must provide appropriate training for technical committee chairs, secretariats, and standards information personnel.
-------	--

How can it be demonstrated?

Standards development, publication, and information are people-based activities. The NSB must therefore provide for the training of newly appointed technical committee chairs and secretariats, as well as annual refresher courses. The same applies to standards information center personnel. The training can be provided initially through ISO programs, but the NSB should make these part and parcel of its own training department activities.

Existing information/reporting/monitoring

- Training programs
- Training records

3.5.4 Liaison with international organizations (building block no. 24)

What is meant

Major	The most relevant international standardization organizations from the NSB's perspective would be the ISO, International Electrotechnical Commission (IEC), International Telecommunications Union (ITU), Codex Alimentarius Commission (CAC), International Plant Protection Convention (IPPC), and World Organisation for Animal Health (OIE). The IEC, ISO, and CAC are the most important because their standards would constitute the bulk of national adoptions. Hence, the NSB should be a member of these at a level appropriate to the country's involvement in international trade.
-------	---

How can it be demonstrated?

In the first instance, the NSB's actual membership level within the ISO—and, if the NSB is also on the IEC National Committee, its level of membership in the IEC—is important. Depending on the needs and resources of the country, these could be as a member body in the ISO or as a full member in the IEC.

Lower membership levels have access to working documents but limited voting rights in the technical work; no eligibility for technical committee managerial functions; and, at the lowest level, only limited rights to adopt international standards as national standards (ISO 2015). Lower membership levels are acceptable in countries where resources are limited or where standardization needs are less strategic. However, if the country needs to adopt and publish large numbers of international standards as national standards, then the highest level of ISO or IEC membership is indicated.

Second, the NSB should be involved in the technical work of the ISO and IEC, as determined by the needs of the country. Membership can be as a participating member (P-member) or as an observer member (O-member). The number of international technical committees and subcommittees of which the NSB is a P-member or O-member is a useful indicator. More important, though, is the voting performance of the NSB in the case of P-membership. Not only should the NSB's voting performance on final draft international standards be higher than 95 percent, but appropriate comments as developed in mirror committees (see building block no. 13) should have been submitted as well.

Ultimately, the NSB should be actively involved in the international technical committees of strategic importance to the country; for example, national delegations led by the NSB should attend international technical committee meetings on a regular basis. It is not useful from a strategy perspective to be a P-member of 100 committees but not to attend any of their meetings. It is far more beneficial for the country to attend a small number of strategically important international technical committees that are involved in developing international standards for commodities the country's trade depends on. This number can be increased over time as resources become more readily available. Even though the country may be a low- or middle-income country operating as a "standards taker" rather than a "standards maker," it can still influence international standards, but then it has to be present at technical committee meetings.

Existing information/reporting/monitoring

- Standards strategy and its implementation plans
- ISO and IEC membership data
- ISO and IEC technical committee data
- Annual reports of the NSB
- Business plans and minutes of the NSB technical and mirror committees
- Formal communication records of the NSB with the ISO and IEC

3.5.5 Liaison with regional organizations (building block no. 25)**What is meant**

Major	If the country is a member of a regional construct, then the NSB will be required to participate actively in regional standardization activities if these are part of the regional agreements. This means also participating in technical committees at the regional level.
-------	---

How can it be demonstrated?

Regional standardization organizations are sometimes the outcome of trade agreements leading to regional common markets; in other cases, they are based on cooperation objectives between NSBs from a geographic region. In the former, NSBs are members by default, having to represent their respective countries in the regional standardization organization. In the latter, membership is by choice.

Some regional standardization organizations are entities with full-time staff and premises; others are liaison-type committees with only a secretariat. Some, but not all, of the regional organizations develop and publish regional standards (for example, for use in harmonized technical regulations). Some are forums where a regional approach to international standardization is discussed and agreed to; others identify international or harmonized standards that should be adopted by member countries as national standards; and some only coordinate standards development activities across the region. There is no model that is superior to others (Kellermann and Keller 2014).

Regional standardization organizations include the Arab Industrial Development and Mining Organization (AIDMO); African Organization for Standardization (ARSO); Association of Southeast Asian Nations (ASEAN) Consultative Committee on Standards and Quality (ACCSQ); European Committee for Standardization (CEN); European Committee for Electrotechnical Standardization (CENELEC); EuroAsian Interstate Council for Standardization, Metrology and Certification (EASC); Pacific Area Standards Congress (PASC); Pan American Standards Commission (COPANT); and South Asian Regional Standards Organization (SARSO). In some of these, there are subregional standardization organizations, such as the East African Standards Committee (EASC); Southern African Development Community (SADC) Cooperation in Standards (SADCSTAN), as well as others precisely aligned with the various common markets that are developing on the African continent; and the Caribbean Community (CARICOM) Regional Organization for Standards and Quality (CROSQ).

The membership of the country in any regional construct will be indicative as to whether the NSB will be or should become a member of a regional standards organization. The role and responsibilities of the NSB within the regional standards organization will be spelled out in relevant regional treaties, protocols, agreements, or in some cases even regional legislation. If relevant, then the NSB will have to establish mirror committees for regional standards development and must participate actively in the same. In some regional trade agreements, member countries are obliged to adopt regional standards within a given time once they have been approved and to withdraw their own. They are also obliged to stop the development of a national standard once the development of the regional standard of similar scope is under way. NSBs are obliged to provide information on their regional standards and are able to market them.

Existing information/reporting/monitoring

- Regional membership status of the country
- Relevant regional treaties, protocols, agreements, or legislation
- Catalog of regional standards adopted by the NSB
- Annual reports of the NSB
- NSB internal reports of regional standards body meetings

3.5.6 Coordination within the QI (building block no. 26)

What is meant

Major	Coordination among the fundamental QI organizations (the NSB, NMI, and NAB) is important to ensure that their responsibilities and activities provide a unified basis for calibration and conformity assessment service providers and the market surveillance activities of regulatory authorities.
-------	---

How can it be demonstrated?

Coordination within the QI is important, especially among the NSB, the national metrology institute (NMI), and the national accreditation body (NAB) as the three pinnacle QI organizations. This coordination, to ensure that there are no overlaps or gaps in their service delivery or activities, can be realized formally or informally.

If the NSB, NMI, and NAB are governmental organizations, then their line ministries are in a good position to ensure such coordination, especially to ensure that the three are implementing the quality policy measures. Otherwise, a quality council or similar construct would be able to do the same. A third alternative is for the CEOs of the NSB, NMI, and NAB to have a formal coordination meeting at regular intervals. A technical regulation coordination office (whatever its name) coordinates the activities of the regulatory authorities with the QI regarding the development and implementation of technical regulations, ensuring that costly overlaps and gaps in service delivery are kept to a minimum.

Existing information/reporting/monitoring

- Line ministry policies, pronouncements, and documentation
- Quality council (or similar body) documentation and minutes of meetings
- Technical regulation coordination office mandate and pronouncements

3.5.7 Standards development organizations (building block no. 27)

What is meant

Major	It is not always only the NSB that develops national standards in the country. Other standards development organizations (SDOs), such as ministries, professional societies, and the like, might also be active. The NSB should recognize such entities and ensure that they comply with the international and regional obligations as defined in the WTO TBT Agreement, for example.
-------	---

How can it be demonstrated?

SDOs are standards development organizations other than the NSB in the country. These could be engineering associations, government departments, or utilities—that is, any official organization that can provide the infrastructure for developing standards in compliance with the same procedures the NSB uses. SDOs are a useful mechanism to spread the load of standards development and to obtain additional funding for the work, leading to both an enhanced work program and a quicker time to market for relevant standards.

It is good practice for the NSB to register such SDOs after ensuring that they comply with Annex 3 of the WTO TBT Agreement; the ISO/IEC Directives (ISO 2017); and any national “standard for a standard” (see building block no. 12). The standards that are developed by SDOs are then published by the

NSB as national standards. By registering SDOs and coordinating the standards development work programs of the NSB and all SDOs, the NSB also ensures compliance with a fundamental GSP: ensuring that there are no overlaps in national standards that would lead to chaos in the marketplace or in technical regulation.

If the NSB is a governmental-type organization (see building block no. 2), then it should be mandated by its legislation (for example, a Standards Act or similar law) to register SDOs. Without such a mandate, it may be difficult to do so, depending on the legislative framework of the country. If the NSB is a private company, then its articles of incorporation should provide it with such a mandate. If such a mandate exists, then the NSB should have a formal process and procedures by which it registers SDOs, coordinates the standards development work programs, and ensures that the SDO remains compliant in all respects. Obviously, the NSB should also be able to rescind any organization's SDO status if it fails to comply continuously with stated requirements and to make the rescinding known publicly. Such a system, over and above being good practice, also facilitates a country's compliance with WTO TBT Agreement requirements regarding standardization principles.

Existing information/reporting/monitoring

- NSB legislation or articles of incorporation
- Formal NSB procedures for registering SDOs
- Official registration documentation of SDOs
- Work programs of the NSB and SDOs
- Annual reports of the NSB
- Standards catalog of the NSB
- Minutes of quality council or CEO coordination meetings

3.5.8 Stakeholder engagement (building block no. 28)

What is meant

Fundamental	Stakeholders play an important role in the development and implementation of national, regional, and international standards. The NSB must identify its stakeholders, communicate clearly with them, and gain their support and participation in the development and implementation of national, regional, or international standards.
-------------	--

How can it be demonstrated?

The NSB should map its stakeholder environment, including sectors such as

- *Governance*, such as QI organization boards or councils, regulatory authorities, NSB line ministry and other ministries, and so on;
- *Beneficiaries*, such as industry, traders, importers, society, and so on; and
- *Influencers*, such as business associations, media, nongovernmental organizations (NGOs), trade unions, and so on.

Thereafter, the NSB should follow a deliberate and continuous approach to stakeholder engagement that is properly planned, conveys a clear message, and asks stakeholders their opinions and then acts upon them. The central theme of the message should be the importance of standards for socioeconomic development and the role the NSB plays in developing the standards appropriate for the country. This message would be in the form of a formal communication plan or a similar strategy.

The governance of the NSB is vested in its board or council, but these should be individuals with specific strengths rather than a collection of representatives from all stakeholder groups (see subsection 3.2.1). Hence, it is useful for the NSB to establish a quality forum or similar open stakeholder meeting in which all stakeholders can participate freely and whereby the NSB can gain an understanding of the needs of its broader stakeholder groups. In addition, it is important for senior NSB management to commit energy and time to building high-level relationships that engender trust and to seeking out networking opportunities.

Existing information/reporting/monitoring

- Standards strategy and its implementation
- Communication strategy or plan and its implementation
- Minutes of a quality forum or similar open stakeholder meeting
- Key performance indicators of senior management
- Stakeholder mapping results

NOTE

1. The WTO TBT Inquiry Point, under the TBT Agreement, is an official or office in a member government designated to deal with inquiries from other WTO members and the public on technical barriers to trade.

STANDARDS REFERENCED IN SECTION 3

Note: The most recent revision of these international standards should be obtained from the ISO or IEC, as relevant. Details regarding the private standards referenced in the text should be obtained from the relevant organizations.

ISO (International Organization for Standardization). 2015. “ISO 9001: Quality Management Systems—Requirements.” 5th ed. Ref. no. ISO 9001:2015(E), ISO, Geneva.

ISO and IEC (International Organization for Standardization and International Electrotechnical Commission). 2004. “ISO/IEC 17011: Conformity Assessment—General Requirements for Accreditation Bodies Accrediting Conformity Assessment Bodies.” Ref. no. ISO/IEC 17011:2004(E), ISO, Geneva.

———. 2005. “ISO/IEC 17025: General Requirements for the Competence of Testing and Calibration Laboratories.” Ref. no. ISO/IEC 17025:2005(E), ISO, Geneva.

REFERENCES

ISO (International Organization for Standardization). 2010. *Engaging Stakeholders and Building Consensus: Guidance for National Standards Bodies*. Geneva: ISO.

———. 2015. *ISO Membership Manual*. Geneva: ISO.

———. 2017. “ISO/IEC Directives, Parts 1 and 2: Procedures for Technical Work.” ISO Central Secretariat and International Electrotechnical Commission (IEC) Central Office, Geneva.

ISO and IEC (International Organization for Standardization and International Electrotechnical Commission). 1994. “ISO/IEC Guide 59: Code of Good Practice for Standardization.” Ref. no. ISO/IEC Guide 59:1994(E), ISO, Geneva.

———. 2004. “ISO/IEC Guide 2: Standardization and Related Activities—General Vocabulary.” 8th ed. Ref. no. ISO/IEC Guide 2:2004(E), ISO, Geneva.

- . 2005. “ISO/IEC Guide 21-2: Regional or International Adoption of International Standards and Other International Deliverables—Part 2: Adoption of International Deliverables Other Than International Standards.” Ref. no. ISO/IEC Guide 21-2:2005(E), ISO, Geneva.
- ISO and UNIDO (International Organization for Standardization and United Nations Industrial Development Organization). 2008. *Fast Forward: National Standards Bodies in Developing Countries*. 2nd ed. Geneva: ISO.
- Kellermann, Martin, and Daniel Paul Keller. 2014. “Leveraging the Impact of Business Environment Reform: The Contribution of Quality Infrastructure—Lessons from Practice.” Working paper, Business Environment Working Group of the Donor Committee for Enterprise Development (DCEd) and United Nations Industrial Development Organization (UNIDO), Vienna.
- Minzberg, H., B. Ahlstrand, and J. Lampel. 1998. *Strategy Safari: The Complete Guide through the Wilds of Strategic Management*. Edinburgh: Pearson Education, Prentice Hall.
- Racine, Jean-Louis, ed. 2011. *Harnessing Quality for Global Competitiveness in Eastern Europe and Central Asia*. Washington, DC: World Bank.
- WTO (World Trade Organization). 1995. “Agreement on Technical Barriers to Trade.” Treaty document, WTO, Geneva.
- . 2000. “Decision of the Committee on Principles for the Development of International Standards, Guides and Recommendations with Relation to Articles 2, 5 and Annex 3 of the Agreement.” Annex 4 of Document G/TBT/9, “Second Triennial Review of the Operation and Implementation of the Agreement on Technical Barriers to Trade,” Committee on Technical Barriers to Trade, WTO, Geneva.