MAIN MESSAGES

Standards for Development

Standards: The quiet catalysts of development

The world runs on silent agreements. They are invisible when they work: the plug that fits the socket, the kilogram that weighs the same in Nairobi as it does in Nagpur, the barcode that rings up a carton of milk or registers a container at sea. Standards—the shared rules that underpin consistency, compatibility, and quality—are not mere technicalities. They are foundational infrastructure, as vital to prosperity as roads or ports. Treat them as a springboard and they propel development. Make them a straitjacket and they will stifle it.

Standards have never been more important. Indeed, they are far more important today for low- and middle-income countries, especially because of increased technological sophistication and globalization, than they were for advanced economies when they were at comparable levels of development. A large number of international standards have been minted in the past 25 years. Nearly all of global trade is now covered by nontariff measures, many of them related to standards. This shift reflects the complexity of supply chains, the digitalization of commerce, and rising aversion to a growing number of societal and planetary risks. Complying with standards—and shaping them—has become a prerequisite for export growth, technology diffusion, and the efficient delivery of public services.

Policy makers worldwide, but especially those in low- and middle-income countries, cannot afford not to know about standards. Navigating the complex world of standards is essential for accessing international markets and improving the functioning of domestic economies. Standards are also important policy instruments that belong in any policy maker's toolbox.

A world of standards

Standards come in many forms and serve different purposes. Most standards are voluntary, developed by stakeholders who perceive a market or societal need for them. Standards can become mandatory when they are enshrined in laws or agreed upon in legally binding contracts. They may differ by their geographic reach, varying, for instance, according to whether they were developed at the national or international level. Depending on their function, standards establish consistent measurement, ensure compatibility, and enhance quality; they can also specify a shared terminology or provide guidance.

This Report offers advice on the diverse ways in which standards can serve as tools of public policy. Sometimes, the best choice for a government is not to get involved and let stakeholders develop the standards they need. In other cases, standards can be combined with other policy instruments either to fill technical gaps in regulation or to complement other instruments, such as measurement approaches for market-based policies.

The implementation of voluntary standards and the enforcement of mandatory standards rely on a broader system of public and private institutions and policies. This system is known as a quality infrastructure. It includes metrology (the scientific study of measurement), conformity assessment

(testing, inspection, certification), accreditation, and standardization itself. A country's quality infrastructure system applies across various policy areas, from accrediting universities in education to inspecting hospitals in health care. Quality infrastructure helps sustain competitive markets and enables the achievement of a range of public policy objectives.

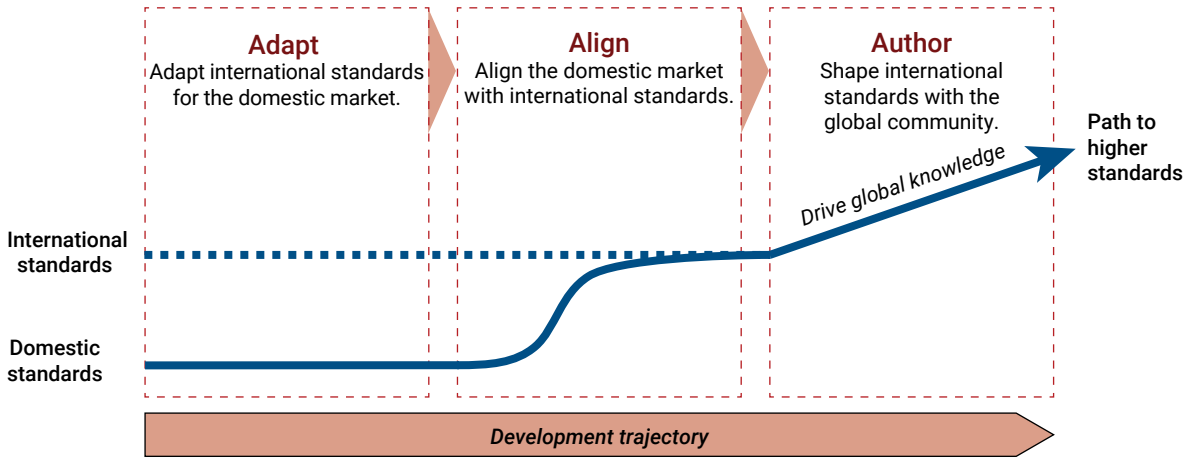
Priorities for low- and middle-income countries

The Report also presents a conceptual framework showing how low- and middle-income countries can move toward standards that target higher levels of quality. It explains how to strengthen institutions, sequence reforms, and assign roles to both the government and the private sector.

What should low- and middle-income countries do to embed standards in their development strategies?

First, *adopt a realistic trajectory for a move toward higher-quality standards, using a tiered approach* (refer to figure 1). Aligning with international standards enables market access and learning, but this may not always be feasible for low- and middle-income countries because of capacity constraints. If necessary, adapt international standards to domestic conditions, allowing markets to thicken. Over time, progressively align with international standards, benefiting from international good practices while reducing duplication and easing market entry. Lastly, build the presence and expertise needed to author standards: Show up in international committees that develop standards, comment on drafts of standards, and convene domestic stakeholders to ensure mutual learning. Participation helps ensure standards are not inadvertently exclusionary. A tiered approach along these lines enables gradual convergence with international standards while supporting inclusion and capability building at home.

Figure 1 From adapting standards to aligning and then authoring them



Source: WDR 2025 team.

Second, *focus on compliance.* Standards are ineffective if they are not implemented. Embedding standards in a broader system that verifies, monitors, and enforces compliance allows them to manifest their full potential. Countries should set priorities with regard to compliance, however. This includes compliance with voluntary and mandatory standards demanded by export markets—whether agri-processing, manufacturing, health products, or digital services—and for domestic regulation in high-stakes areas.

The role of the government in ensuring compliance must evolve over time. First, build the *basics* of a quality infrastructure system by establishing a metrology and standards body and providing services related to quality assurance like testing and inspection, typically led by the government. Then, *broaden* the coverage of compliance activities and attract private providers, particularly for testing, inspection, and certification. Over time, *balance* the approach by collaborating more with the private sector to provide compliance at scale, shifting the government's role to that of a "referee."

Within the government, regulators in various sectors too often reinvent the wheel, creating duplicative requirements that morph into home-grown nontariff barriers. *A quality infrastructure system shared across government agencies should be the backbone for all regulators,* from food safety to digital services. Also, the use of regional facilities and mutual recognition allows scarce capital and human resources to be stretched.

Third, *treat standards as flexible policy tools.* This requires understanding the different ways that both voluntary and mandatory standards can serve as public policy tools, how standards differ from regulation, and how they complement other instruments such as market-based policies. In most cases, governments should allow markets to shape voluntary standards, because this benefits innovation and knowledge diffusion. Mandatory standards should be used only with respect to critical public interests such as health, safety, environmental protection, and the prevention of deceptive trade practices. Mandatory standards are particularly useful when the benefits of prevention outweigh the costs of future damage, especially if potential harm is irreversible. A mixed approach that uses voluntary standards in support of mandatory regulation is often the best approach.

Government actions should model the reliability the government expects of others. The government itself should uphold standards, especially in the critical areas of government procurement, recruitment, and data collection, reporting, and publication.

Priorities for high-income economies and international bodies

High-income economies and international bodies have work to do, too. More effort is needed to ensure that international standards align with the realities in low- and middle-income countries from the beginning.

First, *increase the representation of low- and middle-income countries in the standards development process.* Fund seats at standard-setting tables for low-income members, simplify processes, and experiment with designs that embed multiple pathways for compliance from the start.

Second, *make stronger efforts to reduce the fragmentation of standards,* including enhancing international regulatory cooperation to prevent introduction of nontariff barriers. Consolidate overlapping voluntary schemes and divergent regulations that raise costs for everyone, but especially for smaller producers in poorer countries. International regulatory cooperation and consolidation of duplicative schemes cut waste and increase uptake.

Third, *change how the global community views standards in light of the growing list of global challenges,* including technological risks. In this regard, the global community faces a dual challenge. In some areas, there is *too much* standardization, resulting in a "spaghetti bowl" of standards or international standards that do not reflect the realities in low- and middle-income countries. In other areas, there is *too little* standardization: The global community has failed to manage the worsening risks of emerging technologies and the drivers of the planetary crisis.

The absence of crucial standards is often a result of corporate influence or geopolitical competition. This Report takes a renewed look at who sets what standards or who blocks them.

A race against time

Developing countries are in a race against time. Middle-income countries want to become rich in a generation or less. Low-income countries need to support growth and improve welfare for their populations. A big part of this involves becoming more efficient in investment, production, and trade. Standards are the baton in this race, passed from laboratory to factory to regulator to border and back again. When standards are well developed and well handled, the whole team runs faster. When they are too heavy or ill fitting, some runners along the way are bound to stumble. The task now is to craft a baton that more hands can grasp and to make sure more runners are invited onto the track. This Report shows how. Table 1 summarizes its recommendations.

Table 1 Main policy recommendations regarding standards for development

RECOMMENDATIONS FOR LOW- AND MIDDLE-INCOME COUNTRIES (THAT OTHER COUNTRIES MAY ALSO WANT TO CONSIDER)		
Use standards as a springboard for development, not as a straitjacket.	Learn to use the full toolbox of standards for policy, not just the hammer.	Use quality infrastructure to realize the full potential of standards.
Create the conditions needed for firms to upgrade quality; don't enforce such upgrading with mandatory standards. Improve fundamentals (macroeconomic environment, rule of law) in the country to create demand for standards. Integrate standards into broader industrial policies. **Adapt quality standards in line with the capacity of stakeholders to comply with them.** Overly ambitious standards that cannot be met create risks. But if standards need to be adapted to the local context, do so systematically to avoid creating hurdles for that country and others. A tiered approach involving standards with varying degrees of strictness may help with systematic adaptation of standards. **Show up and speak up in international standards forums and share findings at home.** Attend international meetings of organizations such as ISO and the IEC to influence international standards, and use the process as an opportunity for learning. Virtual participation, often now possible, helps reduce travel costs.	**Use standards as a flexible tool in public policy.** Combine voluntary standards and regulation to pursue innovation-friendly policy approaches. **Require all sectoral regulators and other government bodies to use quality infrastructure[a] consistently.** Using uniform approaches to compliance across the government and sharing facilities like testing laboratories save public resources and avoid creating nontariff barriers to trade.	**Sequence the development of quality infrastructure[a] according to market demand and country preferences.** Infrastructure (such as laboratories) can be expensive and should grow together with countries' demands in order to optimize use of quality infrastructure resources. **Develop capacity for compliance as a public-private partnership.** It is often more cost-effective for the government to oversee compliance with standards than to carry out all compliance checks in government facilities. **Focus on the availability of quality infrastructure, not the location.** Not all quality institutions need to be physically located in each country. Share costly laboratory infrastructure with regional partners. **Leverage digital tools for better quality infrastructure.** Low- and middle-income countries can benefit from leveraging digital technologies to make quality infrastructure more accessible and cost-effective.
RECOMMENDATIONS FOR THE GLOBAL COMMUNITY		
Develop international standards that better serve low- and middle-income countries.	Ensure that well-intended standards do not become barriers to development.	Tackle global challenges.
Support low- and middle-income countries in the process of developing international standards—or risk low uptake. Inclusive processes for developing standards should include voices from low- and middle-income countries. Support is needed to make international standards truly international. **Promote tiered standards to match different capacities.** From the design stage, standards should integrate varying capacity levels of countries.	**Deepen international regulatory cooperation.** Regulation grows more complex over time, creating the risk that standards become barriers to trade. Early cooperation on regulations helps prevent this. **Tidy up the "spaghetti bowl" of standards.** Even if standards are voluntary, fragmentation (multiple standards for the same product or service) has become a problem in some areas. Consolidating by building trust and mutual recognition is key. **Amass more data and evidence.** Standards are an underappreciated and underresearched topic. More data and evidence are important to inform regulatory impact assessments and guide policy makers.	**Set and comply with standards now—or face crises later.** The risks of unchecked technological progress like artificial intelligence and environmental degradation grow exponentially, outweighing the benefits. Standards are essential to align technological development with societal preferences.

Source: WDR 2025 team.

Note: IEC = International Electrotechnical Commission; ISO = International Organization for Standardization.

a. "Quality infrastructure" refers to a system of public and private organizations and policies that provide services like testing, inspection, certification, metrology, accreditation, and standardization itself.