Metrology, Standards and Conformity Assessment, Tools to Accelerate Economic Growth: The Vietnam Experience

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INTRODUCTION

Metrology, standards and conformity assessment (MAS-Q) are increasingly recognized as essential tools for promoting economic growth, especially in developing countries. Accurate measurements, documentary standards and conformity assessment have become prerequisites for expanding international trade. MAS-Q activities are important to ensure that market transactions can take place and consumers and regulators feel confident that the goods being produced imported and exported are safe and are of the quality and quantity that they expect.

Among the main challenges facing the international trading system are the diverse standards and conformity assessment practices that persist in different countries. Developing countries and countries making the transition from a centrally planned economy to a market economy make up some three quarters of the International Standards Organization's membership and similar numbers for the World Trade Organization (WTO). For them, MAS-Q is an important source of technological expertise for developing their economies and raising their capability to export and compete in global markets.

For developing countries, understanding the link between global trade, MAS-Q and export competitiveness is at the forefront of trade policy. The removal of non-tariff barriers to trade and implementing a regulatory system that includes a MAS-Q system that is WTO compliant and accepted internationally has become a central political task for many developing and transitional economies. In seeking to expand international trade, it is virtually impossible to underestimate the importance of adopting and implementing internationally recognized and accepted MAS-Q practices. These activities provide a vital link to global trade, market access and export competitiveness as they contribute to consumer confidence in product safety, quality, health and the environment.

Internationally, donor organizations such as the U.S. Agency for International Development (USAID), the World Bank (WB) and the Asian Development Bank (ADB), have been providing technical assistance to developing countries in their quest to improve market access for their goods and services. Traditionally these donor organizations provided the expertise of economists and lawyers to assist these countries to bring their legal and regulatory systems into compliance

with the WTO. In recent years, however, these donor organizations came to realize the importance of MAS-Q as a tool to facilitate global trade and have expanded the range of technical assistance they provide to include technical experts in metrology, standards and conformity assessment.

USAID currently works in 100 countries; Vietnam is one of these countries. When Vietnam became a member of the World Trade Organization in 2007, the need to adopt and implement internationally recognized and accepted metrology, accreditation, standardization and quality (MAS-Q) practices became critically important. USAID, through its STAR Vietnam Project, has working closely with the Vietnamese Directorate for Standards and Quality (STAMEQ) to ensure that Vietnam has a MAS-Q system that meets their WTO requirements while opening new trading opportunities and ensuring consumers are protected. This paper describes the assistance program, the advances in metrology, standards and conformity assessment that the Vietnamese have made and the impact of these efforts on the country's economic growth.

The conquest of Vietnam by France began in 1858 and was completed by 1884. It became part of French Indochina in 1887. Vietnam declared independence after World War II, but France continued to rule it until their defeat in 1954 by Communist forces under Ho Chi Minh. Under the Geneva Accords of 1954, Vietnam was divided into the Communist North and anti-Communist South. U.S. economic and military aid to South Vietnam grew through the 1960s in an attempt to bolster the government of South Vietnam, but U.S. armed forces were withdrawn following a cease-fire agreement in 1973. Two years later, North Vietnamese forces overran the South reuniting the country under Communist rule. Despite the return of peace, for over a decade the country experienced little economic growth because of conservative leadership policies. However, since the enactment of Vietnam's "*doi moi*" (renovation) policy in 1986, Vietnamese authorities have committed to increased economic liberalization and enacted structural reforms needed to modernize the economy and to produce more competitive, export-driven industries. Vietnam a country of some 329,560 square kilometers, (127,243 square miles) it's slightly larger than New Mexico and has a population of over 86 million people.

The importance of standards and conformity assessment in both domestic and international trade was prominently noted in the 1994 WTO Agreement on Technical Barriers to Trade (TBT Agreement). The Agreement on Technical Barriers to Trade is one of the 29 individual legal texts of the WTO Agreement. It obliges members to ensure that technical regulations, voluntary standards, and conformity assessment procedures do not create unnecessary obstacles to trade. Although it is difficult to give a precise estimate of the impact on international trade of the need to comply with different foreign technical regulations and standards, it certainly involves significant costs for producers and exporters.

In January 2007, the Socialist Republic of Vietnam became the 150th member of the World Trade Organization. In order to realize the potential benefits of being a member of the WTO, compliance to the TBT Agreement is necessary. A successful MAS-Q program requires that national metrology and standards institutes develop standards and conformity assessment practices to ensure that products, processes, and services are developed and implemented confidently and competently according to the best international practices.

A MAS-Q program should consist of a set of parallel paths detailing the technical and legal (regulatory) aspects.

1. Legal (regulatory)

   To strengthen the legal framework and harmonization process of national MAS-Q laws, standards, regulations, and policies to be consistent with international requirements.

2. Technical

   To develop and implement a unified national MAS-Q infrastructure that strengthens and aligns the technological base of the national metrology, standards, and conformity assessment organizations to a level that will be accepted by the international MAS-Q community.

METROLOGY, STANDARDS AND CONFORMITY ASSESSMENT IN VIETNAM

Directorate for Standards and Quality
STAMEQ http://www.tcvn.gov.vn

The Directorate for Standards and Quality (STAMEQ) - a Governmental Body under Ministry of Science and Technology, is responsible for standardization, metrology, quality, productivity and TBT issues.

STAMEQ has developed over a long period with different names:

1962- The Institute for Standardization and Metrology

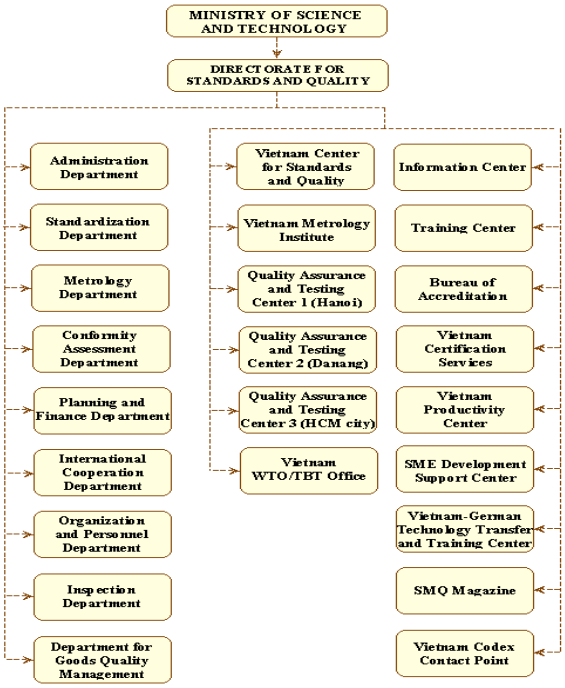
1971 - The Department for Quality Control of Products and Merchandises

1979 - The State Department for Standards, Metrology and Quality.

1984 - The General Department for Standards, Metrology and Quality

1995 – The Directorate for Standards and Quality-STAMEQ.

Today, STAMEQ consists of six departments and 16 financially independent subsidiaries. It has a total staff of more than 1,200 people.



STAMEQ's main functions are as follows:

- To set out policy in the fields of standardization, metrology and quality management in Vietnam;
- To carry out activities in the fields of standardization, metrology, quality management and productivity that benefit Vietnam's economy and society;
- To represent Vietnam in international and regional standards, metrology and conformity assessment activities.

STAMEQ's Regulatory Activity; Vietnam's system of technical regulations consists of:

- National Technical Regulations, symbolized as QCVN;
- Local Technical Regulations, symbolized as QCDP.

STAMEQ also provides guidance to more than 20 agencies in charge of standards, metrology and quality (SMQ) in line ministries, branches, and 63 provinces and cities under the central government.

VIETNAM'S METROLOGY INSTITUTE

Vietnam Metrology Institute (VMI) has the following functions:

- Establish and maintain custody of national measurement standards;
- Ensure traceability of measurement standards to the SI system;
- Develop measurement and evaluation technology for industries; design, produce and supply measurement standards, instruments, calibration means;
- Calibrate the measurement standards and instruments;
- Set up and carry out metrological assurance program for industries;
- Represent Vietnam in international and regional metrology organizations.

VMI has 10 measurement laboratories, all of which are accredited by VILAS (Vietnam Laboratory Accreditation System)

- Mass
- Volume and Flow
- Physical-Chemical
- Force and Hardness
- Pressure
- Electricity
- Electromagnetic
- Time and Frequency
- Temperature

STAMEQ (VMI) is member in the following international and regional measurement bodies:

- Asia Pacific Metrology Program (APMP);
- International Organization of Legal Metrology (OIML);
- Asia Pacific Legal Metrology Forum (APLMF);

- Conférence Generale des Poids et Mesures (CGPM)

BUREAU OF ACCREDITATION

Bureau of Accreditation (BoA) was established in 1995 with the following mission and work programs:

- To strive for the objective of one certificate/testing and calibration report accepted worldwide;
- To provide confidence for customers, regulators in the market to the conformity assessment bodies (CABs);
- To comply with international standards.

BoA Accreditation programs include Laboratories, Certification Bodies and Inspection Bodies. The Vietnam Laboratory Accreditation Scheme (VILAS) by BoA is aimed at:

- Recognizing the competence of laboratories in testing and calibration
- Facilitating the recognition of testing/calibration results between laboratories
- Integrating the laboratory accreditation activities of Vietnam with those of other countries in the region.

STAMEQ is a member of many international and regional accreditation bodies, such as:

- ILAC (International laboratory Accreditation Cooperation),
- APLAC (Asia Pacific Laboratory Accreditation Cooperation) and
- PAC (Pacific Accreditation Cooperation).

STAMEQ is also a signatory to the ILAC and APLAC, MRAs.

BoA has accredited more than 300 laboratories in conformity with international standards

VIETNAM'S STANDARDS AND QUALITY CENTER

STAMEQ is the national standards body of Vietnam and has been a member of ISO since 1977.

- STAMEQ responsibilities in the area of standardization are as follows:
- To take part in development of draft technical regulations; carry out research on standardization, quality and bar-coding policy and works;
- To organize national standards (TCVN) development activity;
- As Vietnam's contact point, to take part in international standards development;
- As a member of GS 1, to carry out bar-coding activity in Vietnam;

To organize Vietnam's annual International and Regional Quality Awards.

The TBT Vietnam Office or "TBT Vietnam" is the unit within STAMEQ responsible for technical barriers to trade issues. TBT Vietnam serves as the national TBT notification authority and national TBT enquiry point. This organizational structure helps TBT Vietnam deal with transparency obligations under the WTO's TBT Agreement efficiently and simply.

TBT Vietnam acts as the secretary of TBT Vietnam's Inter-ministerial Committee and the central point of the TBT Vietnam Network. TBT Vietnam Portal is a hub of TBT information flows in Vietnam. TBT Vietnam is responsible for disseminating information concerning conformity assessment, regional and international MRA's and technical regulations.

The box below illustrates the dramatic impact a technical regulation can have on a society.

Technical Regulations: A No Brainer

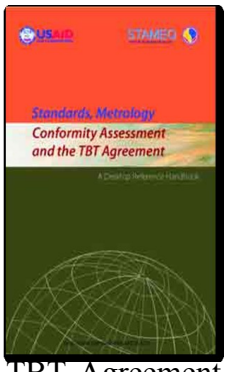
The first technical regulation that Vietnam implemented has had a dramatic impact on saving lives. Viet Nam has an estimated 20 million motorcycles. In December 2007 the use of helmets that meet strict quality standards became mandatory.

One year after this new regulation came into effect; the National Traffic Safety Committee of Vietnam reported that there were 1,400 fewer road fatalities and more than 2,200 fewer serious injuries than the same time one year ago.

The Support for Trade Acceleration (STAR) project was launched in 2001 by USAID to help Vietnam meet their new obligations under the U.S.–Vietnam Bilateral Trade Agreement (BTA) and to accelerate the WTO accession process.

- STAR operates under the guidance of a 15-member inter-ministerial Steering Committee chaired by a Vice Minister in the Prime Minister's Office.
- The project initially focused on legal reform and has worked on approximately 160 laws and regulations.
- Since late 2006, the project's mandate has broadened considerably to include a greater emphasis on capacity building in key institutions, economic research and efforts to mitigate the adverse effects of global economic integration on the poor. The STAR Project has 52 authorized counterparts, ranging from the Supreme People's Court to the National Assembly and the Ho Chi Minh Academy for Political and Administrative Development. Current programs include work on labor, food safety, transparency, training in economics and law, telecommunications, as well as support to STAMEQ.
- STAR's annual budget is approximately $3 million and it has a full-time staff of 14 people (including three Americans). These are augmented by five volunteer interns and short-term technical consultants, both local and international.
- USAID's STAR Project began working with the Vietnamese Directorate for Standards and Quality (STAMEQ) of the Ministry of Science and Technology in 2006. STAR's support to STAMEQ has:
- Supported workshops throughout Vietnam to obtain comments on the Decree and the Law on Quality of Goods and Products. Subsequently, provided expert advice on the draft Law and the Decree to ensure it reflected international best practices.
- Developed and conducted in-depth TBT training courses for the public and private sector on the use of MAS-Q as a tool for trade facilitation.
    - Recommend an action plan for the implementation of the TBT Agreement with respect to technical regulations, standards and conformity assessment procedures;
    - Advised TBT related trade concerns and or dispute settlements;
    - Advised on how the Inter-ministerial Committee can best support TBT Vietnam network to deal with its obligations of TBT notification and enquiry.
- Jointly worked on developing the Law on Standards and Technical Regulations to ensure that it was WTO compliant.
- Provided expert advice on the new Law on Metrology. Through another USAID project, VNCI, provided training on development of a regulatory impact assessment (RIA), a new requirement since January 2009.
- Organized and participated in an international study tour to NIST, ANSI, etc.
- Created an interactive handbook on MAS-Q and the TBT Agreement.

THE HANDBOOK



The TBT Handbook is a particularly important contribution. As a result of the Technical Barriers to Trade Agreement (TBT) workshops conducted by the STAR project and STAMEQ, it became evident that there was a lack of awareness by the participants on where to find basic information such as a simple explanation of the TBT Agreement and the fundamentals of metrology, standards, conformity assessment and related activities. While there are, many sources of such information, produced by many organizations, each focus on their specific interest. There was no single document or source that importers, exporters, government regulators and business could access. We created an interactive desk-reference handbook that provided a basic understanding of the TBT Agreement, metrology, standards and conformity assessment, listed all the sources (web sites, organizations) and defined technical terms in plain language. This handbook is unique, as it is the first interactive document to bring together key information from global sources and networks. It will enable agencies, organizations, and businesses to speak a common language on standards, metrology, conformity assessment, and the WTO Technical Barriers to Trade Agreement.

The TBT Handbook has allowed Vietnam to implement a modern system of standards, technical regulations and conformity assessment. This modern system is part of the legal reform required by Vietnam's accession to the World Trade Organization .The TBT Handbook provides the reader with a general understanding of metrology, standards and conformity assessment, and how they can enhance trade and export competitiveness. The procedures outlined are in accordance with rules set in the WTO Agreement on Technical Barriers to Trade (TBT) and the Agreement on the Application of Sanitary and Phytosanitary Measures (SPS).

Not only does the handbook disseminate information for government, businesses and consumers throughout every province in Vietnam, allowing exporters to reach new markets around the world, but it also provides in-depth information from vast hyperlinks and reference materials for the user. Its electronic version will serve as a living electronic help desk, which will be updated regularly.

The handbook is divided into several sections:

Prior to the Introductory Section there is a list acronyms and abbreviations commonly associated with the TBT Agreement and MAS-Q. This is followed by a glossary of TBT and MAS-Q technical terms in plain language.

The Introductory Section is an overview of the importance of MAS-Q as it relates to trade facilitation and the TBT Agreement**.**

Section One addresses technical barriers to trade with a focus on understanding the fundamentals, background, structure, and content of the TBT and SPS Agreements and member obligations.

Section Two looks at documentary standards and technical regulations, the evolution, recognition, their need, voluntary and mandatory standards and technical regulations. The role of standards and technical regulations international trade, international and regional standards organizations, and the standards development process is also detailed.

Section Three looks at metrology, the science of measurement, its history, the international system of metrological units, the different categories of metrology, the vocabulary of metrology and regional and international metrology organizations are described.

Section Four looks at conformity assessment, the international accepted procedure for determining compliance to standards and technical regulations. The concept of mutual recognition and the principles of conformation assessment are detailed as well as an introduction to regional and international conformity assessment organizations.

Section Five looks at the MAS-Q system in Vietnam; Vietnam became a member of the WTO in 2007, this section describes the countries commitment and obligations as it moves to integrate into the world's economy.

Section Six summarizes the importance of MAS-Q as it relates to global trade.

The handbook is currently published in English and Vietnamese. The handbook was formally launched in Hanoi, in December 2008, to an audience of over 300 attendees from the U.S. and Vietnamese governments and the private sector. Over 3,000 copies were distributed within weeks. The Handbook can be downloaded in English and Vietnamese from: **www.starvietnam.org** and **www.tbtvn.org**. Spanish and Portuguese translations are currently being considered.

PROJECT SUMMARY

The STAR project, specifically the relationship and joint work and cooperation with STAMEQ, has proven to be a great success stories for USAID. The BTA, signed in 2001, and the WTO accession agreement signed in late 2006 have served as catalysts for sweeping reforms in economics and law and greatly accelerated international trade. This, in turn, has lifted millions of people out of poverty. Bilateral trade between the US and Vietnam has diversified away from clothing exports to include footwear, coffee, metals, data processing equipment, telecom apparatus, furniture and other manufactured products. U.S. exports to Vietnam grew from $393 million in 2001 to $2.7 billion in 2008. Vietnam's exports to the United States increased even more dramatically, from $1.02 billion in 2001 to $12.6 billion in 2008. This growth was not confined to US-Vietnam bilateral trade, either. Between 2001 and 2008, Vietnam's exports to all countries grew from $15 billion to $62 billion.

Many factors have contributed to this remarkable growth, but USAID's contributions in the field of MAS-Q have been very important and will only increase as Vietnam becomes fully integrated into the world trading system. Vietnam's decision to pursue global economic integration, undertake sweeping legal and economic reforms and to develop the MAS-Q infrastructure needed to succeed in the global market have proven to be a wise choices that have yielded tremendous benefits for all its citizens.