



MULTILATERAL TRADE ASSISTANCE PROJECT VIETNAM II
(MUTRAP II)

Ministry of Trade in partnership with the European Commission
ASIE/2003/005711



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Advice to adequately equip the central SPS and TBT enquiry points and notification authorities and to create an internet-based “SPS/TBT portal”

FINAL REPORT BY THE EU KEY EXPERT

Hanoi, June 2006

This document has been prepared with financial assistance from the Commission of the European Communities. The views expressed herein are those of the author and therefore in no way reflect the official opinion of the Commission nor the Ministry of Trade

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ACTIVITY SPS/TBT - 3

REPORT ON

ADVICE ON HOW TO ADEQUATELY EQUIP THE SPS AND TBT ENQUIRY POINTS AND NOTIFICATION AUTHORITIES

By

PAOLO VERGANO

MUTRAP EU Key Expert

Hanoi, March 2006

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1 Introduction

One of the expected outputs under MUTRAP's Activity SPS/TBT-3 is, as laid out in the TORs, to produce a "*written report on how to adequately equip the SPS and TBT enquiry points and notification authorities (including the ministerial and provincial level focal points) in order to enhance their operations and achieve a greater and institutionalised degree of information-exchange among and between government agencies and the business community on TBT/SPS and market access issues*". This report is to be jointly prepared by the EU and Local Experts.

A modern and effective information-exchange and management system for Vietnam's SPS and TBT Enquiry Points and Notification Authorities may only be achieved through the procurement and establishment of an adequate IT equipment system (i.e., Hardware/Network/Software) and the organization of an integrated set of office equipment (i.e., Computers/Telephone/Fax/Photocopiers).

On the basis of the individual submissions made by the Local Experts, the commentary offered by the EU Expert, and the various rounds of discussion and coordination held at MUTRAP's office, the following report aims at making specific recommendations on how to adequately equip Vietnam's SPS and TBT Offices.

These recommendations and technical specifications will become, if agreed and accepted by the Government of Vietnam and the European Commission, integral part of the "tendering dossiers" to be prepared by PTF and the other relevant stakeholders for the necessary government procurement. Such tasks will be conducted during the second phase of Activity SPS/TBT-3. Funding will be made available by MUTRAP and by other donors. To this end, a certain amount of preliminary donors' coordination has been conducted by MUTRAP with the World Bank and other individual organizations and projects.

For a greater level of detail and background on the state-of-play of Vietnam's SPS and TBT Offices and the central and provincial level networks, reference should be made to the individual final submissions made by the LTAT, in cooperation with the EU Expert, on SPS, TBT and IT issues. They are available at MUTRAP and can be obtained in electronic format by contacting MUTRAP's PTF.

2 General Recommendations on Technology and Equipment

The following general recommendations and technical specifications build on the work conducted by the IT Local Expert working under Activity SPS/TBT-3 and pertain to both the SPS and TBT Offices. They refer to the selection of the network technology, the basic requirements that the servers must meet the minimum requirements of the network equipment, the recommended network accessories, and the proposed model of local area network (LAN).

2.1 Selection of Network Technology

2.1.1 Selection of the Standards for the LAN network

Although there are many standards for networking, the selection is based on the following characteristics of a Fast Ethernet network:

- The most popular network of the world nowadays;
- The network with the transmitting speed of 10Mbps and nowadays developed into Fast Ethernet with the speed of 100Mbps and Gigabit Ethernet of 1000Mbps speed;
- Easy to enhance and expand, the speed can easily achieve up to 1000Mbps.

2.1.2 Network Organization

LAN network at the two Offices is of star-type design. The network plugs are concentrated at the central rack. The strength of this system is that:

- The structure is simple, easy to be installed;
- The stability of network is high because there are few levels of connection;
- Convenient for the administration.

2.2 The Network Structure

It is recommended that the connection to the access computers is conducted according to the star-type diagram to ensure the flexibility in the network connection and expansion.

Connection between Switches and the Fast Ethernet should take place by using computers through the twisting cables UTP CAT5e. The computer cable network will include racks, patch panels, outlets and transmission cable system.

Computers and switch devices will go through the backup source system to ensure that equipment operate stably and without being affected by sudden interruption.

In general, the computer cable system will be described as follow:

- From the rack, things are designed in a way so that all the integrated equipment in that rack is best protected and the network security as well as equipment safety is ensured. The rack is of 42 U standard, 19 inches in dimension placed at the central position of network of the room. In this rack, switches are connected to each other by the connecting cable, computers are connected with the Switches through the patch panels;
- Patch panels are 24 - and 48 - portals type and also integrated right in the rack;
- From the patch panels, UTP CAT5 cables are connected to the plugs on the walls of the room. This cable system is lined through the protecting tube;
- The network cable line and the power electric line through the water-pipe under the floor is 80 x 150 mm in dimensions, from the network center, cables connecting to the outlets are in the protective plastic pipe which is pressed closely to the wall.

2.3 Requirements for Servers

2.3.1 Database Server

The functions will be to:

- Manage, keep the concentrated databases for the professional application system of two Offices;
- Administrate the system of information network;
- As a Web Server, Administrating portals.

The specifications are that, in order to meet the present demands and for the future development, this server must meet the following requirements:

- Ability of good service;
- Data system is ensured to be highest safety (frequently stored, using data are always in the standby mode of 1-1 or using the RAID technology).

The minimum proposed configuration for the server is the following:

- 2 CPU Intel Pentium IV 800MHz; 1 MB Level 2 cache;
- 1 GB 2-way interleaved PC2-3200R running at 400MHz up to 16 GB;
- 4 x 36.4 GB 10K U320 Pluggable Hard Drive;
- Network Interface Card: 10/100 Mbps (to ensure the high accessing ability);
- CD-ROM, DVD.

2.3.2 *Communication Server*

The functions will be to:

- Act as a Proxy Server: for the purpose of Internet access at the Office through ADSL. On the server, a firewall will be set up to prevent the external illegal access into LAN;
- Act as a Mail Server: For the purpose of electronic mail system of the Office. With a fixed IP address, e-mail services can be provided for TBT/SPS officers nationwide;
- Ensure the demands of security and communication, etc.

The specifications are that, in order to meet the current demands and for the purpose of future development, this server must meet the following requirements:

- Ability of high service;
- Allowing the access to the server at the highest speed;
- Ensure the efficiency for the whole network system.

The minimum proposed configuration of the server is the following:

- 1 CPU Intel Pentium IV;
- 1 GB RAM;
- 2 x 36.4 GB 10K U320 Pluggable Hard Drive;
- Network Interface Card: 10/100 Mbps;
- CD-ROM, DVD with reading and writing functions.

2.4 Requirements for Network Equipment: Cable, Switch, Hub, Network Card, etc.

For each system, the selection of equipment is very important. The appropriate selection of equipment helps the system to operate well, stably, easy to be upgraded or expanded as well as to ensure the effectiveness of investment. The equipment which should be used includes the following items.

2.4.1 Switch

This should be advance network equipment for servers and working stations in the dedicated transmitting line 10Mbps or 100Mbps with Fast Ethernet, not the shared transmitting line like Ethernet network with normal hubs. Using Switches in the network system has the following advantages:

- Enhances the efficiency of the whole network;
- Enhances and stabilizes each transmitting line and working stations.

2.4.2 Hub

This is the equipment for switching (chuyón m'ch) in the network system. It takes the function of switching in two methods like store-and-forward or on-the-fly that allow server, working stations and other network equipment to be connected to each other.

2.4.3 Network Card (i.e., Network grid)

The Network Interface Card (NIC) plays the role of an interface for connecting equipments. It is indispensable for each network system.

2.5 Network Accessories

2.5.1 Network Cable

For the network system, AMP network cable of UTP CAT5 because of the following reasons:

- Good quality (meeting the quality standard of ISO9000).
- Reasonable price.
- Outspread usage
- Available in the market
- Insects resistant Ability.

2.5.2 Patch Panel

It is used for the connection in the network room (together with Switch, Hub). The advantages of these panels are:

- Easy to administrate the system;
- Easy for examination, repairing and upgrading the system;
- Ensuring the good-looking of the system.

2.5.3 *Wall Plate*

It is used for connecting the equipment (such as working station, network printers) into the network system with the following advantages:

- Easy for examination and repairing;
- Ensuring the good-looking of the system.

2.5.4 *RJ45 Connector*

This is used for connection of the equipments and the network system.

2.6 Proposal to Set-Up a Local Area Network (LAN) in the SPS and TBT Offices

The minimum necessary equipments include:

- Two servers placed at the Internet Service Provider as the servers for the two (SPS and TBT) Portals. The cost includes the purchase of servers and hosting fees;
- In each Office, there is a communication server with the configuration described as above, taking the functions as Proxy and Email service for SPS and TBT Office staff through fixed Asynchronous Digital Subscriber Loop - ADSL (this solution should only be chosen if the number of users is not large, approximately not more than 150 users);
- Other equipments and software, which are necessary to set up a LAN for two the two Offices, and some important Focal Points;
- Some supporting equipment such as computers, printers, digital cameras, facsimile machine, etc. should be provided for offices because the current equipments are either not available or of poor quality.

3 Recommendations and Technical Specifications for Equipping the SPS Office

On the basis of the analysis of the current state-of-play of Vietnam's SPS Office and ministerial network, the following items of equipment and IT services are recommended for procurement.

3.1 List of Equipment and Software for LAN

No	Item	Unit	Quantity
1.	Server	Piece	02
2.	UPS for servers	Piece	02
3.	PC (additional)	Piece	06
4.	Notebook computer	Piece	01
5.	Laser printer	Piece	01
6.	SWITCH	Piece	01
7.	Windows 2003 Server operating system, 10 user	CD set	01
8.	Software Mail server and Mail scan: Mdaemon, 10 user	CD set	01
9.	Scanner	Piece	01
10.	Digital Camera	Piece	01
11.	Connecting wire, hub, cable, accessories, network portal, rack, etc.	Set	01
12.	Installation and training on network administration, etc.	Set	01

3.2 Internet Connection

No	Item	Unit	Quantity
1.	Firewall	Set	01
2.	Modem ADSL Zoom X5	Piece	01
3.	ADSL hiring cost	Time	01
4.	Server hosting at ISP	Time	01

4. Recommendations and Technical Specifications for Equipping the TBT Office

On the basis of the analysis of the current state-of-play of Vietnam's TBT Office and ministerial network, the following items of equipment and IT services are recommended for procurement.

4.1 List of Equipments and Software for LAN

No	Item	Unit	Quantity
13.	Server	Piece	02
14.	UPS for servers	Piece	02
15.	PC (additional)	Piece	06
16.	Laser printer	Piece	01
17.	SWITCH	Piece	01
18.	Windows 2003 Server operating system, 10 user	CD set	01
19.	Software Mail server and Mail scan: Mdaemon, 10 user	CD set	01
20.	Scanner	Piece	01
21.	Digital Camera	Piece	01
22.	Connecting wire, hub, cable, accessories, network portal, rack, etc.	Set	01
23.	Installation and training on network administration, etc.	Set	01

4.2 Internet Connection

No	Item	Unit	Quantity
1.	Firewall	Set	01
2.	Modem ADSL Zoom X5	Piece	01
3.	ADSL hiring cost	Time	01
4.	Server hosting at ISP	Time	01

5. Technical Specifications for Equipping the SPS and TBT Ministerial Focal Points

The following equipment is suggested for purchase to equip the central (i.e., ministerial-level) focal points that constitute the regulatory and technical backbone of the SPS and TBT transparency network. Combining the two, the total number of the SPS and TBT focal points is 18.

In particular, the SPS network of focal points is made up of 7 ministries: the Ministry of Agriculture and Rural Development's Plant Protection Department, the Ministry of Agriculture and Rural Development's Animal Health Department, the Ministry of Health's Food Hygiene and Safety Department, the Ministry of Fisheries' National Fisheries Quality Assurance and Veterinary Directorate (NAFIQAVED), the Ministry of Science and

Technology's Directorate for Standards, Metrology and Quality (STAMEQ), the Ministry of Trade, and the Ministry of Industry.

The TBT network of focal points is made up of 11 ministries: the Ministry of Trade; the Ministry of Industry, the Ministry of Construction, the Ministry of Transportation, the Ministry of Post and Telecommunications, the Ministry of Natural Resources and Environment, the Ministry of Labour, Invalids and Social Affairs, the Ministry of Health, the Ministry of Agriculture and Rural Development, the Ministry of Fisheries, and the Ministry of Culture and Information.

No	Item	Unit	Quantity
1.	PC	Piece	18
2.	Laser printer	Piece	18
3.	ADSL	Set	18

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Activity SPS/TBT-3

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Preface

The following report is the final contribution, under Activity SPS/TBT-3, for purposes of the development and recommendation of the specific layout, design and technical specifications for an internet-based “*SPS/TBT Portal*”. This report is meant to provide the basis for the further activities and tasks to be conducted by the Local Technical Assistance Team and MUTRAP’s PTF to oversee and tender for the design and creation of the portal. The report is based on extended research, desk work, discussions between and among the EU Expert, the Local Experts, MUTRAP, the key Vietnamese officials from the central SPS and TBT Offices, and the participants to the two Policy Networking Sessions organized on the subject by MUTRAP’s PTF.

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1 Introduction

The creation of an internet-based “*SPS/TBT Portal*” falls within the broader objective of MUTRAP’s goal to assist Vietnam in complying with its transparency obligations under the SPS and TBT Agreements and, at the same time, increasing the knowledge, networking, and awareness of SPS/TBT issues among Government, business community, public and private stakeholders.

The specific objective of this activity of trade-related technical assistance is to support the competent Vietnamese ministries to design and create an internet-based “*SPS/TBT Portal*” to institutionalise a permanent and effective channel of communication and information-exchange between governmental agencies and business community on SPS and TBT issues both at international and domestic levels. This particular undertaking builds on and is intimately related to the assistance provided by MUTRAP to adequately equip the SPS and TBT enquiry points and notification authorities (including the ministerial and provincial level focal points) in order to properly carry out their WTO transparency functions.

The ability of developing countries and exporters in general to benefit from increased and effective market access to other countries is more and more conditional on their capacity to comply with the standards and technical requirements that regulate the access to those markets. Such requirements include the mandatory requirements established to achieve a range of health and safety objectives of Governments and the growing number of standards specified by purchasers and related to production processes (in terms of their impact on the workers who produce them and the environment). At the same time, developing countries are also increasingly interested and determined to raise the level of protection for their citizens, animals and environment. Their sanitary and phytosanitary standards and their technical regulations may also affect the ability of other countries to export to their market.

WTO accession will provide Vietnamese exporters in the manufacturing and agricultural sectors with an additional instrument to petition their Government to protect their rights under the SPS and TBT Agreements, if need be through WTO dispute settlement. To this end, it is key that Vietnam’s industry and interested businesses work closely with the Government to monitor trade developments and other countries’ trade-related regulatory policies. To a large extent, this is the very essence and intended objective of the transparency obligation under the SPS and TBT Agreements.

These issues call for the creation of an effective information management and exchange system between the SPS and TBT enquiry points and notification authorities (on one side) and their stakeholders, especially businesses, industrial associations and standards-setting or regulatory organisations (on the other side). A well-coordinated and effective information-exchange system on SPS and TBT trade-related matters will not only allow Vietnam to meet more effectively its WTO obligations, but it will also serve as a powerful instrument to stimulate the adoption and implementation of national systems of standards, technical regulations, risk assessment, risk management, quality assurance, accreditation and metrology, together with their harmonization to international standards.

This is essential to Vietnam's general competitiveness and sustained growth and development. MUTRAP believes that such objective may be achieved through the creation of an internet-based "*SPS/TBT Portal*" to institutionalise a permanent and effective channel of communication and information-exchange between Government agencies and business community.

Therefore, one of the expected outputs of activity SPS/TBT-3 is to provide specific recommendations on the design, technical specifications and operation of an internet-based "*SPS/TBT Portal*". To this end, the EU Key Expert and the Local Experts have conducted individual and collective research and analysis on the state-of-play of Vietnam's SPS and TBT Offices and on the available best practices and third countries' model systems.

Policy Networking Sessions have been organized to discuss the preliminary results with all relevant stakeholders in order to gather support for the initiative, acquire the necessary feedback from all governmental and non-governmental parties involved, and make an informed set of final recommendations that duly reflect the technical, regulatory and administrative complexities and needs of Vietnam.

These meetings and discussions have proved useful and successful in terms of the broad participation achieved and the feedback or suggestions put forward by the participants. Government agencies, companies and even non-governmental organizations (i.e., consumer associations and research institutes) actively participated. Details and attendance lists are available with MUTRAP's PTF.

2 Analysis of Other Countries' Model Systems and Best Practices

2.1 Introduction

This part of the report is aimed at identifying and analysing other countries' model systems used to comply with WTO transparency requirements and to offer additional services of information-exchange on SPS and TBT issues by means of internet-based portals and electronic platforms. The identified models systems are then analysed to provide a number of "best practices" that should facilitate and improve the process of design and establishment of Vietnam's "*SPS/TBT Portal*".

2.2 Other Countries' Model Systems

In the following section, the review of a number of third countries' model systems and internet-based SPS or TBT portals is provided. The analysis is based on the information available on the internet, in WTO documents and SPS/TBT Committees minutes of the meetings, and on a review of those systems and resources that are accessible to the public at large. In fact, some websites of countries' internet-based facilities are password-protected and/or only accessible by individuals or entities based in their jurisdictions.

For this reason, the section is divided into “*Accessible Systems*” and “*Non-Accessible Systems*”. The accessible systems are the models developed, managed and posted online by Brazil, Canada, the European Community, Mexico, Trinidad and Tobago, and the United States. They are reviewed and analysed in as great detail and possible on the basis of the information available online and not subject to registration procedures. The non-accessible systems are the models of those countries that are not immediately available on the internet, but for which information has been gathered and is deemed useful for the creation of an “*SPS/TBT Portal*”. They are: Chile, China, Kenya, and New Zealand.

The countries are listed in alphabetical order and the models described in the part on the “*Accessible Systems*” will result in further analysis for purposes of identifying the “best practices” and the features that appear worthy of consideration while designing, establishing and managing the “*SPS/TBT Portal*”. Reference to the location of the countries’ portals and online resources on the internet is systematically made in footnotes. The report should also be read together with the Annex provided and the copy of the relevant webpages and internet tools designed by the countries selected.

2.2.1 Accessible Systems

Brazil’s Model

In order to promote the implementation of the TBT Agreement, Brazil has placed the activities of its TBT Enquiry Point and Notification Authority under the responsibility of the National Institute of Metrology, Standardization and Industrial Quality (INMETRO). Furthermore, with the precise objective of helping Brazilian exporters overcome technical barriers to trade, INMETRO launched in March 2002 a new online service. Brazilian exporters use this internet-based service to contact the Enquiry Point directly and access all information on technical regulations, as provided by WTO Members, before they enter into force.

INMETRO has also developed, with the assistance of the Canadian Enquiry Point, a tool called “*Alerta Exportador!*”¹ (Exporter Alert!), which enables exporters to receive, without any associated cost, daily e-mail updates on new WTO notifications on technical regulations and conformity assessment procedures. This system enables the Brazilian TBT Enquiry Point to cover all business sectors, without inundating the interested parties with irrelevant information. INMETRO has taken the responsibility to supply Brazilian manufacturers and companies (particularly SMEs) with information on technical regulations existing in foreign markets, trying to make exporters aware of the requirements that might demand adaptation of their products.

In particular, “*Alerta Exportador!*” focuses on new draft technical regulations and conformity assessment procedures issued by WTO Member countries and notified to the TBT Secretariat. In addition, INMETRO works together with equivalent institutes of other MERCOSUR Members and this service is now available, free of charge, to exporters of the four countries parties to the South American FTA. Companies can

¹ For a visual of the actual website and of the design and layout chosen by the Brazilian authorities, see the relevant part of the Annex to the report or go to: <http://www.inmetro.gov.br/barreirastecnicas> .

register themselves in “*Alerta Exportador!*”, informing on the products and countries of their interest. After matching this information with new notifications gathered daily from the WTO webpage or from the WTO Secretariat, INMETRO sends automatically an e-mail warning the company that its products might be affected.

This gives the company time to analyse the new requirement and, when necessary, adapt its products, avoiding problems in its exports, or simply assist its Government to put forward comments via the WTO. A summary of the notification is available in Portuguese to provide exporters with the most relevant information on the possible impact on the market. After having received an early warning notice and deciding upon its relevance for access to a particular market, exporters can request the full text of any technical regulations and conformity assessment procedures notified. The exporters are also able to present comments through the internet facility and can send a complaint concerning a technical barrier to trade, which is then analyzed by the staff of INMETRO to launch the necessary procedures and possible consultations with other agencies of the Brazilian Government.

INMETRO periodically conducts *ad hoc* workshops to promote exporters' awareness of the importance of participating in the notification process. In order to provide Brazilian exporters with a fast access to technical regulations and conformity assessment procedures in force, one more service was recently launched: a list of technical regulations in force by country and product available on INMETRO's website in the form of a permanent database.

Canada's Model

The Canadian Enquiry Point for SPS and TBT matters (i.e., the Standards Council of Canada, or SCC) offers a number of services and products to interested stakeholders. *Inter alia*, it provides the notifications and related documentation to Canada's WTO and NAFTA partners of any proposed new or amended technical regulations, conformity assessment procedures, and SPS measures that could have an impact on trade; it distributes WTO notifications to interested Canadian stakeholders, it forwards comments received on domestic and foreign measures to the appropriate regulatory agency for consideration; it gives Canadian producers access to strategic information essential to the design, manufacture, marketing, export and import of products and services; it replies to technical enquiries on a variety of topics; and it provides access to standards and regulatory information through its online technical library and the search engine of its online Regulatory Notices Database.

Of particular interest in relation to Vietnam's work for the creation of an “SPS/TBT Portal”, is the fact that the SCC has developed a system called “*Standards in Focus*”, which is based on tools such as “*Export Alert!*”, “*RegWatch*” and “*Standards Alert!*” and automatically enters notifications received from the WTO into an online database, coded by subject areas, using the international classification of standards². Canadian companies interested in receiving notification information must select their areas,

² For a visual of the actual website and of the design and layout chosen by the Canadian authorities, see the relevant part of the Annex to the report or go to: <http://www.scc.ca/en/index.shtml> . If interested in navigating the “*Export Alert!*” section of the website, click on the “*Programs & Services*” icon at the top of the SCC homepage and then follow the links in the “*Trade*” section to the “*Export Alert!*” portal.

products or countries of interest. This ensures that they receive only relevant notifications.

Canada's system has been very successful and, for example, Brazil's and Trinidad and Tobago's equivalent transparency tools are based on its model and software³. In particular, Canada's "*Export Alert!*" is a unique automated e-mail notification service that helps exporters stay informed of regulatory changes in global markets, before they become enforceable legal requirements. "*Export Alert!*" sends free of charge an e-mail warning when foreign regulators are changing the requirements that apply to products of interest to Canadian exporters. The "*Export Alert!*" service gives the exporter automatic notification of proposed regulatory changes in the specified fields of interest. It also allows for access to full texts of draft regulatory measures and gives interested stakeholders the opportunity to comment on the proposed changes.

Another tool available in the "*Standards in Focus*" section of SCC's website is the "*Standards Alert!*" service. This instrument sends an automatic e-mail update about changes to both Canadian and international the standards that matter to the exporters and importers. "*Standards Alert!*" differs from "*Export Alert!*" in that it is not immediately geared to allow Canadian stakeholders to participate in the WTO transparency process and to comment on notifications made by Canada's trading partners, but rather aims at monitoring particular fields of interest and communicating the changes brought to the relevant standards (national or international) to all interested stakeholders. Through "*Standards Alert!*" standards can be ordered online.

Finally, the "*Standards in Focus*" section of SCC's website provides the "*RegWatch*" service. "*RegWatch*" is a database of voluntary standards referenced in Canadian federal regulations. It offers Canadian governmental agencies and private stakeholders an effective search engine to identify information on Canadian, foreign and international standards referenced in Canadian federal law. This search facility is searchable by keyword, standard number, regulation or standards-setting organization. The database also provides links to the full text of Canadian regulations that cite standards and links to additional information on the standards.

The European Community's Model

The European Community model is based on two separate portals and databases (i.e., one for SPS and one for TBT matters). Both of them, however, feed the information and the trade-related elements of market access (i.e., the SPS and TBT non-tariff trade barriers) to a single market access database (i.e., the so called "*EC Market Access Database*"⁴). This database and internet-based portal is an important operational tool of the EC's Market Access Strategy, supporting a continuous three-way exchange of information between the EC institutions, EC Member States and European business operators. The EC Market Access Strategy aims at reducing the trade obstacles faced by European exporters of goods and services.

³ It is also worth noting that SCC has developed a Spanish version of "*Export Alert!*" to help Latin American countries disseminate WTO notifications to national stakeholders. Bolivia appears to be one country that has made use of such service.

⁴ For a visual of the actual website and of the design and layout chosen by the EC authorities, see the relevant part of the Annex to the report or go to: <http://mkacddb.cec.eu.int> .

In particular, the “*EC Market Access Database*” is a free, interactive, easy-to-use service which provides: 1) information about market access conditions in non-EC countries; 2) a systematic way for the EC to follow-up complaints from European businesses about barriers to trade in non-EC countries; 3) a means of ensuring that the EC trading partners are abiding by their international commitments; 4) better input for defining the EC’s trade policy objectives on further trade liberalisation in the WTO framework of multilateral trade negotiations and in bilateral/plurilateral FTA negotiations.

With respect to the EC sanitary and phytosanitary (SPS) export database (i.e., the “*SPS Database*”⁵) the European Commission has taken the initiative to improve ability of EC producers and exporters to deal with problems for EC exports of animals, products of animal origin, plants and plant products due to SPS regulation. A key element of this policy of trade assistance and trade facilitation has been the establishment of an internet-based database containing reference and information on SPS export problems.

The EC’s “*SPS Database*” is primarily designed to facilitate the identification of these SPS export problems with any third country. The information contained in this database is continuously provided by the agro-food industry, EC Member States, EC Delegations in third countries, European Commission services, and SPS notifications from the WTO. The database is organized and can be searched by third country, by product group (2 or 4 digits), by SPS measure, by third country vs. product group (2 digits), by third country vs. SPS measure, and/or by resolved SPS problems. Other sections and links allow for comments or feedback to be sent by interested stakeholders to the European Commission and for breaking news to be posted and highlighted.

The EC’s “*SPS Database*” appears to lack the interactivity of other countries’ models (such as Brazil’s or Canada’s) and does not boast an “*export alert*” function. However, it is very well organized and provides an easy-to-use and effective search engine for quick identification and posting of SPS-related trade barriers. This element increases transparency and offers EC companies and exporters a powerful tool to gather technical, political, commercial and diplomatic support to address the issue and see it resolved.

With respect to the EC portal on technical barriers to trade, the EC has launched in June 2004 a “*TBT Website*”⁶ to enhance the participation of economic operators and to ensure the highest level of transparency vis-à-vis WTO Members. This internet-based facility is available in the three WTO official languages (i.e., English, French and Spanish) and it provides, in relevant part: 1) information on the TBT Agreement and on the objective and scope of TBT notification procedures; 2) a list of all national enquiry points and notification authorities; 3) a consolidation of the notifications made by WTO

⁵ For a visual of the actual webpages and of the design and layout chosen by the EC authorities for the SPS section of the “*EC Market Access Database*”, see the relevant part of the Annex to the report or go to: <http://mkaccdb.cec.eu.int/mkaccdb2/indexPubli.htm>. If interested in navigating the “*SPS Database*” section of the website, click on the “*SPS Database*” icon in the guide of services provided and proceed further on the dedicated portal.

⁶ For a visual of the actual website and of the design and layout chosen by the EC authorities, see the relevant part of the Annex to the report or go to: <http://europa.eu.int/comm/enterprise/tbt/>. If interested in navigating the “*Mailing List*” section of the website with its subscription procedure to benefit of the automatic alert system, click on the “*Mailing List*” icon in the homepage of the “*TBT Website*” and then follow the links in the dedicated portal.

Members which has led to comments by the EC and of the EC notifications that have led to comments by WTO Members; 4) a complete list of notifications submitted by all WTO Members during the preceding month; 5) a search facility of the EC database for notifications organized by standard, keyword or field of activity and objectives; 6) a mailing list service for subscribers to be automatically informed via e-mail of new notifications made; and 7) a set of useful links.

The EC's "*TBT Website*", particularly in its "*Mailing List*" facility, is intimately related to the WTO transparency process of notification and early commentary. Through this tool of information-exchange and trade facilitation, EC producers, enterprises and interested stakeholders can more easily identify the conditions of market access to third countries and they can make preparations to comply with these. This instrument is also an important instrument of dialogue as it allows the various draft technical regulations and conformity assessment procedures of third countries (as notified to the WTO and automatically circulated to the interested recipients through the "*Mailing List*") to be examined before these are adopted and, if necessary, to be discussed with the notifying country in order to get the latter to change its decision, particularly when the proposed measure is contrary to the obligations of the TBT Agreement.

The EC's "*TBT Website*" and its services can be accessed free of charge, with no further formalities, and are updated daily. Users and beneficiaries can browse through the legislative initiatives of the WTO Members likely to be of interest to them or likely to have repercussions on their business activities. In order to facilitate the search, notifications are classed in specific categories and sub-categories, depending on their aim and the field of activity concerned. Following any notification by a third country, the European Commission asks the notification point of that country to provide it with a copy of the notified draft. In principle, notified drafts are translated into English or French. They are then available to users on the EC's "*TBT Website*".

Mexico's Model

The Mexican SPS/TBT Enquiry Point is located at the Under-Secretariat of the Foreign Affairs Ministry and has been operating since 1995. To guarantee a broad dissemination of information to interested stakeholders and a high degree of transparency, a paper bulletin was in place between 1995 and 1997. It was later replaced by an online bulletin to disseminate information on notifications and possible trade barriers. During the period 2001-2004, the Mexican Enquiry Point developed "*Notificanorm-Alert*"⁷, a service accessible online and working in the same way as the internet-based Canadian and Brazilian facilities (see above).

The Mexican portal intends to provide users of the Mexican SPS/TBT Enquiry Point with several tools in order to gather the relevant information in a timely manner. In

⁷ For a visual of the actual website and of the design and layout chosen by the Mexican authorities, see the relevant part of the Annex to the report or go to: <http://www.economia.gob.mx> and search for the section on "*Normatividad Empresarial*" (i.e., "*Entrepreneurial Standardization*"). For a direct link to the English version of the specific page, please click on: <http://www.economia.gob.mx/?P=85&NLang=en>. If further interested in navigating the "*Notificanorm Alert*" section of the website with its subscription procedure to benefit of the automatic system of notifications, click on the "*Notificanorm Alert*" icon in the homepage of the website and then follow the links in the dedicated portal.

particular, its stated objectives are: 1) to ensure appropriate accessibility to the information and establish more effective communication amongst the stakeholders involved; 2) to favour knowledge exchange between interested parties; 3) to provide technical assistance on complex issues of technical regulation and standardization; 4) to reach out to domestic stakeholders such as chambers of commerce, associations and businesses; and 5) to provide a link between private and public bodies nationally and internationally. The Mexican Enquiry Point indicates that, in providing its services, it aims at constructing the management of information strategically and it seeks to adequately advertise the benefits of the services provided.

Trinidad and Tobago's Model

Two online resources appear worthy of review with respect to Trinidad and Tobago's system of transparency in the area of technical regulation and standardization: the "*National Standards Database*" and the "*Export Alert*" notification system.⁸

In particular, the "*National Standards Database*" is a collection of all Trinidad and Tobago's standards developed or adopted by the Trinidad and Tobago's Bureau of Standards (TTBS). The database contains a record of all compulsory and voluntary standards declared by the Trinidad and Tobago's Bureau of Standards. The database is an important resource for anyone wishing to do business in Trinidad and Tobago with respect to standards which apply to both goods and services. The "*National Standards Database*" does not contain the full text of the standards, but rather a bibliographic record of each document. The record contains information on the title, number, scope and price of the document. The "*National Standards Database*" can be searched by document number, title or keywords.

The "*Export Alert*" notification system is another service provided by the TTBS website and it advertised as a free alert service to stay ahead of changing regulations. Trinidad and Tobago's "*Export Alert*" system was developed by the Standards Council of Canada (SCC) and close cooperation between TTBS and SCC is taking place to ensure that companies in Trinidad and Tobago benefit from this technology and take advantage of the broader WTO transparency process on trade-related technical regulation and standardization.

Through "*Export Alert*", as already seen in Canada's, Brazil's and Mexico's cases (all based on the Canadian model and software), companies and interested stakeholders in Trinidad and Tobago can now stay a step ahead of export requirements from other governments/countries. Companies can register to automatically receive through email proposed changes to the rules that govern products and services in third countries. Subscribers can track their particular area from a range of forty-one fields of interest.

⁸ For a visual of the actual website and of the design and layout chosen by the authorities of Trinidad and Tobago, see the relevant part of the Annex to the report or go to: <http://www.ttbs.org.tt/>. If interested in navigating the "*National Standards Database*" section of the website, click on the "*Standards Database*" icon at the top of the page. If interested in exploring the "*Export Alert*" service, with its subscription procedure to benefit of the automatic alert system, click on the icon "*Stay Ahead of Changing Regulations with Export Alert*" icon in the website's homepage and then follow the links in the dedicated portal.

The United States' Model

In the United States, a model to be looked at, for purposes of the creation of an internet-based portal, is the online service provided by the National Center for Standards and Certification Information (NCSCI). NCSCI is an office within the Global Standards and Information Group, Standards Services Division, Technology Services of the National Institute of Standards and Technology (NIST).⁹ NIST is an agency of the Technology Administration of the United States' Department of Commerce.

NCSCI provides research services on standards, technical regulations and conformity assessment procedures for non-agricultural products. NCSCI is the central repository for standards-related information in the United States and has access to domestic, foreign, and international documents and contact points through its WTO role as United States' national Enquiry Point.

One of the services provided by NIST, through its NCSCI office and online resources, is the “*Notify U.S.*” tool.¹⁰ “*Notify U.S.*” is a free, web-based e-mail subscription service that offers US entities (i.e., citizens, industries, organizations, etc.) an opportunity to review and comment on proposed foreign technical regulations that can affect their businesses and their access to international markets. The broad purpose of “*Notify U.S.*” is to collect and fulfill subscriber requests for information on WTO notifications relating to the scope of the Agreement on Technical Barriers to Trade and its transparency requirements.

By subscribing to the “*Notify U.S.*” service, US entities receive, via e-mail, notifications of drafts or changes to domestic and foreign technical regulations for manufactured products. Included in the subscribers e-mail is a link to the “*Notify U.S.*” website where they can read more information and order complete texts of the regulations for review and comment. The “*Notify U.S.*” service is only available to subscribers who are US citizens and individuals that are part of US based organizations and industries.

Registered subscribers can access the “*Notify U.S.*” service by entering an authorized e-mail address and password in the “*Sign In*” form. Any individual who needs access and does not have an account and a password (or has not been assigned one), can select this “*Subscribe Link*” to create an account for subscribing to the service.

Subscribers may customize their information profiles to receive notifications of regulations by one or more (or all) specified fields of interest and by one or more (or all) WTO Member countries. Fields of interest are industry sectors defined by the International Classification for Standards (ICS) scheme as developed by the International Organization for Standardization (ISO).

⁹ For a review of NIST's services and website, go to <http://www.nist.gov/>.

¹⁰ For a visual of the actual website and of the design and layout chosen by the US authorities, see the relevant part of the Annex to the report or go to: <http://tsapps.nist.gov/notifyus/data/index/index.cfm>. If interested in navigating the “*Notify U.S.*” section of the website, click on the links provided in the “*Topics*” list and access each dedicated portal.

2.2.2 Non-Accessible Systems

The following country models are reviews of systems that are not immediately accessible on the internet or by means of other public informative tools. They are based on a collection of information and research conducted on the internet and on the basis of a review of the WTO Secretariat's reports of the SPS and TBT Committees' meetings. They are offered as additional elements of information and consideration to take into account while designing and establishing Vietnam's "*SPS/TBT Portal*".

Chile's Model

It appears that Chile's national notification authorities and enquiry points maintain a complete electronic archive with all standards of all countries notifying to the WTO and the received documents notified by other WTO Members. When required, the information is sent out to those sectors which could be interested in them within Chile.

For the national notification authority, the official in charge (in relevant part) receives, classifies copies and distributes notifications from other WTO Members to interested parties; maintains an electronic archive of notifications; receives and transmits requests for regulations from other WTO Members. An electronic archive of all foreign regulations received is maintained and a hard copy archive sorted by Member is regularly updated.

Every time that a notification of importance to the Chilean industry and export interest is received, the document notified is requested to the notifying WTO Member and, when received, it is distributed to interested Chilean parties.

China's Model

With respect to the notifications made by other WTO Members, it appears that China translates all TBT notifications into Chinese within two to three working days, and distributes both the Chinese and English versions to governmental departments, industrial sectors and other related organizations. At the same time, notifications are posted on the Chinese SPS/TBT website and are made available to the public free of charge.

The enquiry point compiles and publishes a number of reports on technical barriers to trade, such as a the "*WTO/TBT Express*", the "*Reports of the TBT-SPS Enquiry Points*", "*Understanding of the TBT Agreement*", and a nationwide periodical containing information on technical trade barriers. Additionally, TBT information is disseminated via traditional media channels and weekly on China's central TV station. The TBT Enquiry Point also appears to carry-out research on key issues of international trade and publishes reports which are used as reference material for selected industries.

Furthermore, the Chinese Enquiry Point appears to reply to reasonable enquiries from governmental, import and export enterprises as well as domestic and foreign trade associations by providing interested parties with the full text of notifications from the

WTO database and/or referring them to the relevant regulatory agencies and ensuring coordination among different agencies, when necessary.

When China receives TBT notifications from other WTO Members, its TBT Enquiry Point distributes them to governmental agencies, the industrial sector and related organizations for comment. To increase companies' knowledge of the TBT Agreement, the Enquiry Point carries-out selected publishing and training activities. It also organizes workshops on formulating effective comments on notifications. Comments received from other WTO Members concerning China's notifications are conveyed to all competent departments and translated into Chinese, if necessary.

China's experience appears to demonstrate that the following elements are of crucial importance for a successful operation of a national TBT (and SPS) Enquiry Point: 1) the full attention of the central government; 2) clear working procedures; 3) highly qualified staff; 4) advanced office equipment; and 5) the active participation in meetings of the TBT Committee and other related activities.

Kenia's Model

Kenya's TBT national enquiry point was fully established and made operational 1999 through technical assistance from WTO/UNCTAD/ITC, which provided technical facilities, helped setting-up a technical regulation database, and organized a study tour to European enquiry points.

To speed up the process of receiving and managing TBT notifications, Kenya's national enquiry point systematically downloads TBT and SPS notifications directly from the WTO website and stores them on the local server. Then, the national enquiry point summarizes each notification and compiles this information in a monthly publication, the "*WTO/TBT Notification Update Bulletin*", which is distributed electronically to over 400 organizations and individuals. As this bulletin is only compiled and circulated monthly, a selective dissemination of information has recently been introduced. Notifications on specific products are selected on a daily basis and then sent to specific beneficiaries. This service is gradually being offered (free of charge) to more and more interested stakeholders.

It appears that Kenya's national enquiry point has experienced some problems and challenges, which need to be highlighted and can be addressed through technical assistance: 1) the limited awareness of the domestic industry on the trade benefits of the WTO notification procedure; 2) the lack of office technology to make Kenya's enquiry point a one-stop-information-service-point; 3) the difficulties of translation and reception of full texts when requested from other national enquiry points; 4) the lack of internet access for many SMEs; 5) the limited server capacity of the enquiry point; and 6) the need to create an interactive website, which would allow full text searches.

New Zealand's Model

With respect to its SPS transparency obligations, New Zealand has found it both practical and efficient to have the same agency operate both the notification authority

and national enquiry point within one existing agency (i.e., MAF's Biosecurity Authority).

The notification authority conducts the majority of its work electronically (i.e., sending and receiving both notifications and notified draft SPS regulations). When it is not possible to obtain documents or notifications through e-mail or the world wide web, the next most common method of communication is via fax).

It appears that, when notifications are received from the WTO website, they are first logged and then distributed to key stakeholders and partners in governmental agencies. Industry groups are also alerted to SPS notifications that might be of interest through government publications.

2.3 Other Countries' Best Practices

The following section provides an analysis of the individual elements of each model system that appear to work well or that are systematically used by all (or most) countries in the setting-up, design and management of internet-based SPS and TBT portals.

Brazil's Best Practices

The INMETRO website appears rich in links and additional resources available online. The "*Alerta Exportador!*" online resource appears easy to navigate and both visually and substantially well-organized. It is part of a webpage called "*Ponto Focal de Barreiras Tecnicas as Exportacoes*" (Focal Point on Technical Barriers to Trade), which is based on a selection hexagon visualizing the six services made available by INMETRO (see Annex).

These services are: 1) the Exporter Alert! daily e-mailing of WTO notifications on technical regulations to requesting parties on the basis of the areas of interest expressed by the beneficiaries; 2) the provision of the complete text of the WTO notifications after a request by the beneficiary has been lodged with INMETRO; 3) the collection of comments to the WTO notifications by interested parties following the information-exchange through the Exporter Alert! service; 4) the space for identifying and requesting governmental action to challenge specific technical barriers to trade, if need be by WTO dispute settlement, and after inter-ministerial coordination and consultation; 5) the contact point for the beneficiaries to request further information on the notification by INMETRO; and 6) the space where notifications can be reviewed (this works as a database of previous notifications accessible at all times by interested parties).

A particularly effective and interesting trait of Brazil's "*Alerta Exportador!*" service appears to be the periodical organization of awareness-creation workshops to promote exporters' knowledge of the importance of participating in the notification process and of the valued-added represented by "*Alerta Exportador!*". Without this awareness and pro-active participation by the industry and economic operators, the very meaning and the effectiveness of "*Alerta Exportador!*" would be greatly diminished.

Canada's Best Practices

The SCC's "*Standards in Focus*" website and related online services appear very well organized and structured. The wealth of information and the tools made available go well beyond the framework of the WTO transparency process (i.e., the notifications, the information-exchange and the early opportunity to comment for interested stakeholders) and stretches to provide powerful search engines, rich and well-managed databases and information on both Canadian and international standards, whether mandatory or voluntary.

The best practices of the "*Export Alert!*" service are to be seen in its level of automaticity, in its apparent simplicity and conciseness of the initial notification (see the sample notification in the Annex), in the fact that it provides a "one-stop-shop" for both SPS and TBT notifications, and in the reader-friendliness of the summary fiche that is attached to the notification sent out to the interested stakeholder (again, see the sample fiche in the Annex).

The best practices of the "*Standards Alert!*" tool rest in the features that allow interested stakeholders to monitor the particular fields of interest, with respect to both domestic and international standards, when changes are brought to the applicable standards. This is important because clearly the element of transparency is essential to producers both in relation to domestic and foreign or international standards. Enhancing the access to this information is crucial to allow producers to design, manufacture, market, export and import products and services.

As for the "*RegWatch*" database, the best practice appears to be that it is well searchable (i.e., by keyword, standard number, regulation or standards-setting organization) and that it provides links to the full text of Canadian federal regulations that cite voluntary standards and Canadian, foreign and international standards. This is again an important tool to allow producers to design, manufacture, market, export and import products and services with the necessary degree of commercial predictability and legal certainty.

The European Community's Best Practices

The best practices and positive features of the EC model can be summarized with three ideas: 1) the high degree of integration with the "*EC Market Access Database*"; 2) the great organization of its databases and search engines; and 3) the simplicity and user-friendliness of the services. On the negative side, it appears to lack some of the interactive characteristics of other systems and software solutions (such as Brazil's and Canada's systems) and an "*export alert*" automatic services for SPS notifications.

With respect to the high degree of integration with the "*EC Market Access Database*", this appears to be an element of great importance which is to be encouraged because the nexus between the transparency on SPS and TBT matters achieved by the portals and the trade relevance of third country measures as potential trade barriers is clear. The EC clearly aims at assisting its producers and exporters in being swiftly informed about these regulatory changes, in addressing the trade distortions that may result from such

changes, in possibly challenging them, and, in general, in making its producers and exporters more competitive on third markets. Such goal is the ultimate objective of transparency and the “*EC Market Access Database*” goes a great length in trying to achieve it.

The effective organization of the EC portals’ databases and search engines is clear when an attempt is made at using them (see the Annex for samples of the various databases). The level of detail reached in the organization of the databases and the ability to cater to the differing interests of all potential beneficiaries is a definite asset.¹¹

Finally, the simplicity and user-friendliness of the services are defining trait of a successful portal. The EC models come across as not particularly “fancy” (as opposed to other models), but as very easy and straightforward instruments to use (see the Annex for samples of the various databases).¹²

Mexico’s Best Practices

The model adopted by Mexico is largely based on similar experiences developed by Canada and Brazil. The key features appear to be, despite the difficulty of navigating the Spanish language website, its registration mechanism (tailored at pin-pointing the beneficiaries’ particular interest for purposes of the automatic alert on sectoral notifications) and the amount of links to related and relevant online resources which is made available on the website.

Another trait which seems worthy of mention and to be considered in the creation of an SPS/TBT Portal is the effort made at adequately advertising the benefits of the services provided. One way in which this objective is sought is through an icon, present on all webpages called “*Recomienda esta pagina*” (i.e., “*Recommend this site*”). Such “word-of-mouth” advertisement appears as a technique which is both effective and cost efficient.

Trinidad and Tobago’s Best Practices

Like in the case of the other portals based on the Canadian model and software solutions, Trinidad and Tobago’s internet-based portal and “*Export Alert*” system appears very well integrated, easy to subscribe to, neatly organized to identify the particular interests of the beneficiaries (for purposes of the notifications to automatically originate and send out), and based on a website which is easy to surf and fairly straightforward.¹³

It also appears quite interactive in that several links are provided to stay informed about ongoing initiatives, seminars, symposia, training courses, meetings and events being

¹¹ The recommendation is made that the readers access the respective websites and navigate them to fully appreciate the structure given, the organization of the databases, the design chosen and the layout.

¹² Again, access by the readers to the respective portals and their navigation is recommended to fully appreciate the structure given, the organization of the databases, their design and the layouts.

¹³ As usual, the recommendation is made that the readers access TTBS’ website and navigate it to fully appreciate the structure given, the organization of the databases, the design chosen and the layout.

organized on issues of relevance to trade and standardization. This feature of awareness-creation and visibility of TTBS appears as recommendable and essential to make sure that a broad basis of companies and interested stakeholders participate and take advantage of the system.

The United States' Best Practices

The best practice of NIST's online resources and internet-based portal definitely rests in its organization of the website, easy navigability and the wealth of information provided. A lean opening page with a list of topics available prompts the user to individual sections that contain explanations, commentary, links to relevant websites and other organizations' online resources, feedback forms and information aimed at facilitating the use of the website and its resources. Some areas of the website are open to the public at large while others are password protected and reserved to the users that have subscribed.¹⁴

For example, some of the useful services that "*Notify U.S.*" provides to its users are: 1) it allows them to request complete texts of changing technical regulations; 2) it guides them in the preparation of comments; 3) it allows them to easily submit comments, through NCSCI, to the US TBT Enquiry Point for possible use in the WTO transparency process; 4) it offers information on translation services; 5) it offers news and information about standards, conformity assessment procedures and the WTO TBT Agreement in general; 6) it helps manufacturers and exporters to identify specific product standards and regulations through access to standards catalogues from many WTO Member countries; 7) it contains the global list of foreign TBT Enquiry Points; 8) it makes reference to regional and international standards groups; and 9) it identifies relevant publications and technical regulations from other countries.

In particular, the list of the suggested and available resources appears impressive and very well explained in the dedicated section of the website.¹⁵ Two services that stand out and that should be given adequate consideration during the creation of an SPS/TBT Portal are the online magazine called "*Export America*" and the link to the "*Market Access and Compliance*" resources. These aspects are crucial because they underline the intimate relation between technical regulation and standardization (on one side) and trade opportunities, market access and WTO transparency (on the other side).

"*Export America - The Federal Source for Your Global Business Needs*" is the official magazine of the International Trade Administration (ITA) in the US Department of Commerce. It offers practical export advice and serves as a valuable resource for small and medium-sized exporters. Each month, "*Export America*" draws on the resources of the International Trade Administration (ITA) and other governmental agencies to feature regional developments, country-specific and industry-specific opportunities, trade events listings, technical advice, online marketing tips and export statistics. Each article specifically focuses on the needs of SMEs and includes information on technical topics, such as export documentation and market research.

¹⁴ It is recommended that the readers access NIST's website and navigate it to fully appreciate the structure given, the organization of the databases, the design chosen and the layout.

¹⁵ For more details, go to: http://tsapps.nist.gov/notifyus/data/more_resources/more_resources.cfm and navigate the various webpages and additional resources by clicking on the appropriate links.

On the other hand, the objective of the “*Market Access and Compliance*” tool is to increase (or maintain) market access for US companies and exporters through the guarantee of full compliance by third countries with the rules and obligations of the trade agreements that they have entered into with the US. Once a problem is identified, the “*Market Access and Compliance*” tool uses all available resources to assist US businesses in finding a solution to the market access barrier. To make such efforts more effective, the “*Market Access and Compliance*” team is divided into country and regional experts and staff specializing in specific trade agreements.

3 Proposal of Solutions to Fit into Vietnam’s Needs and Administrative Structure

3.1 The Current Situation with the SPS and TBT Central Offices

The following two sections are based on the individual submissions put forward by the Local Experts and build on their assessments of the current institutional, administrative, technical and organizational state-of-play of the SPS and TBT Central Offices. The focus here is placed on those functions and traits that most relate to the role and functions of a future “*SPS/TBT Portal*”.

For a greater level of detail and the collection of all supporting documents (i.e., the relevant Government Decisions and Regulations), reference must be made to the actual submissions and final reports of the Local Experts, as discussed with the EU Expert and finalized. They are available with MUTRAP’s PTF.

3.1.1 Institutional Framework and Organization of the SPS Office

The SPS National Notification Authority and Enquiry Point of Vietnam (hereinafter, Vietnam’s SPS Office) has been formally established by Prime Minister’s Decision No. 99/2005/QĐ-TTg dated 09 May 2005. The Vietnam SPS Office is placed under the Ministry of Agriculture and Rural Development and serves as the official channel of communication between Vietnam and other countries on SPS issues.

In Vietnam, six Ministries are sharing responsibilities of state administration of SPS measures, including Ministry of Agriculture and Rural Development, Ministry of Public Health, Ministry of Aquatic Products, Ministry of Science and Technology, Ministry of Industry and Ministry of Trade. In order to meet the transparency requirements of the WTO and ensure that the development and adoption of national SPS regulations are transparent, there is a need to designate a National Notification Authority and Enquiry Point at the ministerial level. For Vietnam, it has proved quite logical and appropriate to place the notification authority in the Ministry of Agriculture and Rural Development where the majority of SPS regulations, standards and procedures are generated. For the same reason, the enquiry point is to be placed in the same office.

Although the official decision of the Prime Minister forming the SPS National Notification Authority and Enquiry Point was taken in May 2005, it took several

months for the administrative process to recruit staff, renovate the office and provide basic necessities to start. It is only since early this year that Vietnam's SPS Office has been put into operation. The Ministry of Agriculture and Rural Development (MARD) sent a diplomatic note informing all foreign embassies and international organizations in Hanoi of this establishment.

At the first stage, Vietnam's SPS Office is based in the International Cooperation Department (ICD) with its manager being a Deputy Director General of the ICD. This is because currently, Vietnam has not completed bilateral talks for WTO accession some remaining countries and not been required to notify the WTO Secretariat of national SPS regulations. In the future, particularly when Vietnam obtains full WTO membership and meets increasing requirements of transparency, the National SPS Office will be expanded to become an independent unit under the MARD with its own legal status and stamp, being eligible for opening accounts at a bank and the State Treasury.

Detailed responsibilities of the Vietnam SPS Office are set forth in MARD's Decision 1733 dated 15 July 2005. The mandate of the National SPS Office covers the following areas:

- Notifying WTO Members of any proposed or changed national SPS regulations that may affect international trade;
- Reviewing and forwarding to relevant stakeholders any foreign SPS notifications that may have significant impact on Vietnam's trade for reference and comments;
- Responding to all reasonable questions and providing, upon request, the legal text of SPS regulations as well as documents regarding risk assessment process, control and inspection procedures, participation of Vietnam in bilateral and multilateral arrangements within the scope of the SPS Agreement, etc;
- Sending Vietnam's enquiries about SPS measures to other countries on behalf of governmental agencies, industrial associations and enterprises;
- Establishing an extensive SPS information-exchange network between the National SPS Office, focal points, industries and with the WTO;
- Coordinating with domestic and international stakeholders so as to promote the implementation of the SPS Agreement and increase market access for agricultural products of Vietnam;
- Contracting with national and international organizations and/or individuals to provide advisory services in the SPS areas;
- Acting as the focal point for the preparation of meetings, workshops, and reporting of the SPS status in Vietnam to MARD.

The wide range of the responsibilities delegated to the National SPS Office indicates that this new office is created not only to simply fulfil mandatory requirements of transparency under the SPS Agreement, but also to gain benefits from this obligation by stimulating the adoption and implementation of SPS regulations and practices in compliance with international standards and by assisting Vietnamese industry and economic operators with the necessary information to access export markets.

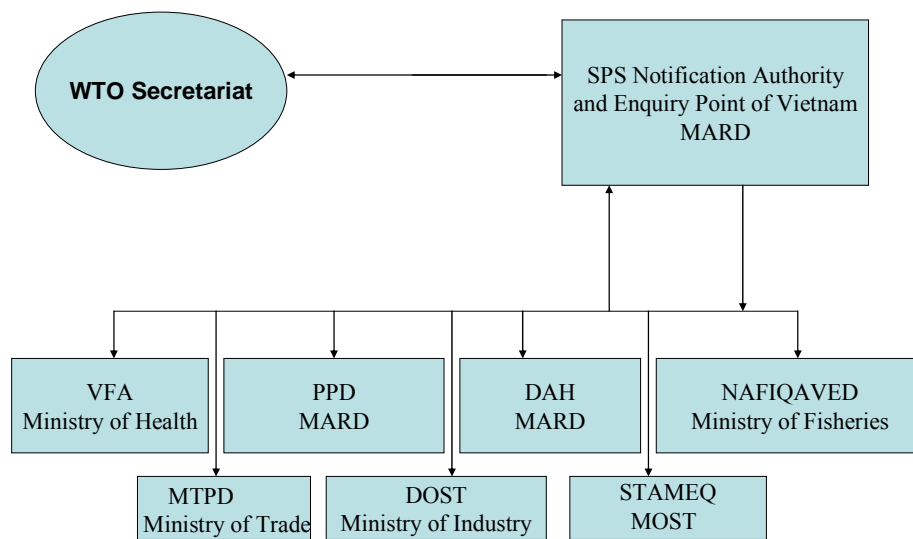
In other words, the Government of Vietnam is committed not only to meeting its WTO transparency obligations, but also to translate them into additional value added rights

and opportunities for its business community. With respect to SPS, the broader objective is to promote agricultural exports from Vietnam. For example, the Vietnam’s SPS Office intends to regularly scan all foreign notifications on changed SPS regulations and identify those of potential impact to Vietnam’s trade so as to distribute them to interested organizations or post them on the SPS portal. Stakeholders will be able to use this channel of communication to promptly update SPS measures from trading partners and adjust their production practices accordingly.

The Vietnam SPS Office is coordinating with relevant ministries and departments through the SPS network of focal points, which are located in 7 respective departments: MARD’s Plant Protection Department (PPD), MARD’s Animal Health Department (DAH), MoH’s Food Administration (VFA), MoFI’s National Fisheries Quality Assurance and Veterinary Directorate (NAFIQAVED), MoST’s Directorate for Standardization, Measurement and Quality (STAMEQ), MoI’s Department of Science and Technology (DOST) and MoT’s Multilateral Trade Policy Department (MTPD).

The following chart illustrates the SPS ministerial network and the coordination flows of the National SPS Office with relevant government bodies:

ORGANIZATION CHART OF SPS NETWORK



The SPS network is able to connect with domestic enterprises and provide direct information about SPS measures so as to help them improve market access for their products by facilitating technical negotiations with foreign counterparts. It is expected that there will be a lot of communications and information exchange between 2 sides before final approval is given for market access. For examples, the Plant Protection Department conducted pest risk analysis on dragon fruit and submitted technical documents to the US Department of Agriculture 2 years ago and technical discussions are still ongoing.

A Deputy Director General of MARD’s International Cooperation Department has been appointed to be the manager of the Vietnam’s SPS Office. She takes responsibility before the Minister of MARD for all activities of the Office. In fact, this is only a part-

time job with her main duty remaining the economic international integration process of MARD in general.

Currently, there is only one full-time staff working for the National SPS Office under the supervision of the manager of the SPS Office. He acts as the coordinator for both the notification authority and enquiry point. He is also responsible for drafting the operational rules and procedures as well as liaison with different national and international institutions.

Each of the 7 focal points maintains one leader and one official who are responsible for drafting notifications and handling enquiries in their respective area on part-time working basis. So far, most of the departments concerned have officially designated 2 persons to be the official contact points in the network. Together, they constitute an inter-ministerial working group which supports the National SPS Office to perform its functions.

At present, the operating rules of the National SPS Office and network are being developed and are expected to be endorsed by MARD sometime in March 2006. The draft rules specify the duties and coordination mechanisms of the central SPS network for making notifications and handling enquiries.

3.1.2 Institutional Framework and Organization of the TBT Office

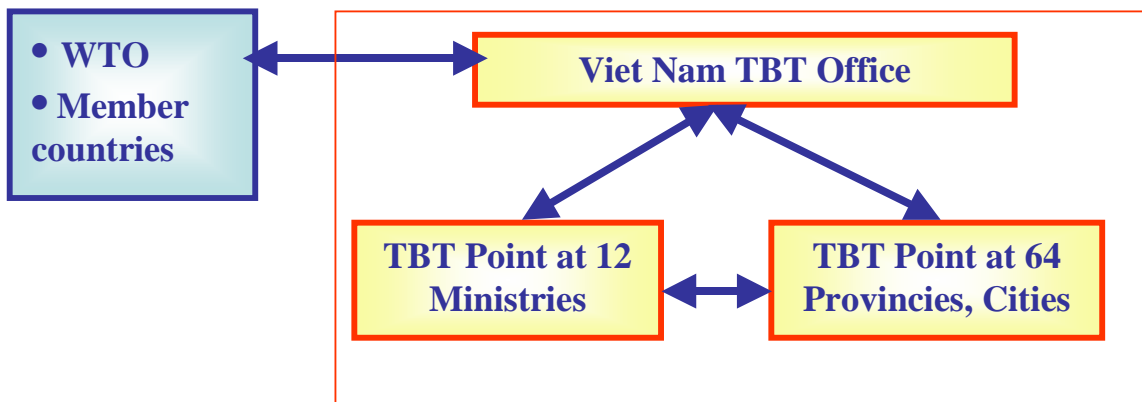
Vietnam WTO/TBT Notification Authority and Enquiry Point (hereinafter, Vietnam's TBT Office) belongs to the Directorate for Standardization, Metrology and Quality (STAMEQ) of the Ministry for Science and Technology (MOST). It was established by Decision No. 356/2003/QĐ-BKHHCN of 25 March 2003 of the Ministry of Science and Technology and reconfirmed in the Prime Minister's Decision No. 140/2004/QĐ-TTg of 5 August 2004. The charter on the organization and functions of Vietnam WTO/TBT Office was adopted with Decision No.12/2003/QĐ-BKHHCN of 26 May 2003. The TBT Office is the national contact desk which carries out the transparency obligations under the WTO Agreement on Technical Barriers to Trade (TBT Agreement).

Vietnam's TBT Office has a network in 64 provinces directly subordinated to the central government and in 12 11 central ministries (as implemented by Decisions 444/2005/QĐ-TTg and 114/2005/QĐ-TTg of the Prime Minister). The network of central ministries is made-up by the Ministry of Trade, Ministry of Construction, Ministry of Transportation, Ministry of Health, Ministry of Justice, Ministry of Labour, Invalids and Social Affairs, Ministry of Agriculture and Rural Development, Ministry of Natural Resources and Environment, Ministry of Post and Telecommunications, Ministry of Fisheries and Aquatic Resources, Ministry of Culture and Information, and Ministry of Science and Technology.

Detailed responsibilities of the Vietnam TBT Office are set forth in the Regulation of 26 May 2006 on the organization and operation of Vietnam's TBT network adopted together with Prime Minister's Decision 114/2005/QĐ-TTg. In relevant part, they cover the following areas:

- Notifying Vietnamese technical regulations, standards and processes of conformity assessment and on other issues related to Vietnam's technical barriers to trade;
- Taking initiative in reviewing, detecting and notifying on technical regulations and process of conformity assessment, which can restrict trade of WTO Member countries;
- Receiving TBT notifications from ministerial-level or local TBT notification authorities and processing them before forwarding them;
- Notifying bilateral and multilateral agreements which Vietnam has signed and which are related to technical regulations, standards and processes of conformity assessment;
- Receiving and forwarding WTO Member countries' notifications, questions and document-supplying requests to ministerial-level or local TBT notification authorities and enquiry points;
- Coordinating operation and guiding notification and enquiry operations to the authorities in the network.

ORGANIZATION CHART OF TBT NETWORK



Up to now, the network of Vietnam's TBT Office has been undergoing a process of gradual establishment and organization. An Inter-Branch Committee for Technical Barriers to Trade (called the Inter-Branch TBT Committee) was established on 3 November 2005 by virtue of Decision No. 2788/QD-BKHCN of the Minister of Science and Technology.

According to Decision No. 444/2005/QD-TTg of 26 May 2005, a large amount of technical and regulatory activities will be undertaken during the course of the next 5 years to perfect the system of technical regulations, to improve the system of Vietnamese standards, and to intensify the procedures for assessing the conformity with technical regulations and standards. All these activities will need to be reflected by an equivalent amount of transparency efforts by Vietnam's TBT Office and Vietnam's TBT network. For example, a database containing the full range of standards, technical regulations and conformity assessment procedures is being considered. Vietnam's TBT Office has also just started to build-up the internet links/networks (not the LAN) and its

website (<http://www.tbvn.org>) with regular updated information being linked with the STAMEQ's pre-existing website (<http://www.tcvn.gov.vn>).

Vietnam's TBT Office has one collection of Official Gazettes in Vietnamese and English language dating from June 2003 to date. Some technical regulations, decisions, circulars, joint circulars, decrees, directives, resolutions, orders and laws related to TBT regulation and technical issues are also being progressively chosen and consolidated for building-up a database named "*TBT Regulations*". This database will be made available to interested stakeholders.

With reference to the 2002 APEC "*Handbook on Notification Authorities and National Enquiry Points under the Technical Barriers to Trade and Sanitary and Phytosanitary Agreements of the World Trade Organization*" (i.e., APEC's document SCSC CTI 27/2001 of February 2002), a regulation on TBT notification, enquiry and information exchange procedures for Vietnam's TBT network has been prepared and submitted to the Ministry of Science and Technology for approval. This document will be used as working procedures for the whole TBT network.

At the present time, there are 9 staff officials employed in Vietnam's TBT Office: a Director, a Deputy Director, an IT Officer, a Notification Authority Officer and an Enquiry Point Officer, an Interpreter and three support staff in the Administration Department (an accountant, an auditor and support staff). The ministerial and provincial level TBT Notification Authorities and Enquiry Points are undergoing a process of establishment.

3.2 Proposed Layout and Design of the "SPS/TBT Portal"

This section of the report provides a number of recommendations and suggestions on how Vietnam's SPS/TBT Portal should be set up and on what services it should provide. These recommendations and suggestions are based on:

- The review of other countries' available and relevant models;
- The analysis of their best practices;
- Vietnam's needs and current regulatory, administrative and organizational situation in relation to SPS/TBT and transparency;
- The submissions made by the LTAT members;
- The discussions entertained with the Local Experts and other relevant ministerial stakeholders (i.e., the officials in the Central SPS and TBT Offices);
- The discussions held with the ultimate Vietnamese beneficiaries (i.e., the "industry" and other interested stakeholders) during policy networking sessions.

To facilitate the process of identification of the key country models and best practices, ahead of the formulation of the specific recommendations for Vietnam, the experiences described in greater detail in Part 2 of the report (see above) are summarized below.

3.2.1 Review of the Key Models and Best Practices

The following traits appear in most (or all) countries' systems reviewed and stand-out as key features of any SPS or TBT portal that should be taken into account while designing Vietnam's internet-based "*SPS/TBT Portal*".

- Most services on countries' portals, if not all, are made available free of charge and through automated systems. Certain value-added services, however, such as translation services, analytical services and reproduction services may be based on reasonable fees;
- Most countries have restricted access to all (or certain) services on their portals to individual subscribers or entities resident or based within their jurisdictions;
- Most countries have found it useful and beneficial to have an "export alert" system that automatically notifies interested parties of received WTO notifications on proposed SPS or TBT changes in other countries' systems;
- Such automatic notifications are tailor-made according to the needs of the ultimate beneficiaries (therefore there is a need for databases and smart subscription systems to pin-point the notification interests of the beneficiaries);
- SPS or TBT portals become effective and attractive instruments for the ultimate beneficiaries if they are simple, user-friendly, well-organized, punctual and easy to navigate;
- To this end, for example, it is not necessary that the entire WTO notifications and supporting documents be immediately made available and translated. What is necessary is an early translation of a summarized fiche in order to quickly alert the "industry" of the proposed regulatory changes on export markets of interest. Time is of the essence;
- Databases of domestic and foreign technical regulations, standards (mandatory and voluntary), and conformity assessment procedures are helpful. They are resource-intensive to be assembled and maintained, but can facilitate the access to relevant (or vital) information by producers and exporters;
- Links to existing international organizations' databases and online resources are useful. They are provided by a number of countries' portals and internet-based systems;
- A lot of information is already available on the internet, both domestically and internationally. It simply needs to be organized so that its use may be facilitated and systematically approached by the "industry";
- The link of the SPS/TBT portals with more general market access databases is useful and increases the chances of information-exchange among interested parties;

- More general information on the SPS and TBT Agreements (and on the WTO system in general) is often provided by other countries' model portals;
- The business-to-government line of communication is as important as the process of government-to-business information-exchange. It is essential that the necessary resources be found (for example, in terms of human resources) to make sure that the questions and comments put forward by the "industry" be adequately and timely managed and dealt with by the competent governmental authorities;
- Awareness-creation of the availability of the portals and their services is crucial for them to become effective tools and to result in better market-access opportunities for its users;

The above general features of internet-based portals stand-out as both best practices and early recommendations in relation to Vietnam's efforts at designing its "*SPS/TBT Portal*". The following section of the report aims at further specifying the traits of Vietnam's "*SPS/TBT Portal*" and builds on the experience shown by other countries, on Vietnam's peculiar situation, and on a number of early discussions held with interested stakeholders and governmental authorities.

3.2.2 Recommendations for Vietnam's Model of "SPS/TBT Portal" and Suggested Practices

On the basis of the research and analysis conducted, of the discussions entertained between and among the EU Expert, the Local Experts and the participants to the Policy Networking Sessions, it is recommended that Vietnam's "*SPS/TBT Portal*" possess the following features and characteristics:

- There should be one single portal (i.e., a single website address, for example, www.sps-tbt-portal.gov.vn) jointly managed by Vietnam's SPS and TBT Offices. The internal resources would remain individual competences and responsibilities of the two separate Offices and their networks, but it would be good to have a "one-stop-shop" internet page acting as the online gateway to all issues of SPS and TBT standardisation, regulation and conformity assessment;
- Should the administrative and technical requirements make it difficult for a single portal to be designed and established, (for example www.tbt.gov.vn and www.sps.gov.vn), the two portals should be based on the same layout, homepage structure and range of offered services. This would enhance their accessibility, reduce design costs, facilitate the management and coordination by the two Central Offices and offer an image of good organization to the outer world;
- The operating languages of Vietnam's "*SPS and TBT Portal*" should be Vietnamese and English. Certainly Vietnamese as the services available on the portal are first and foremost catered to Vietnamese beneficiaries. While the homepage and key parts of the portals should be in both languages, it is clear that priority should be given to the Vietnamese version for those sections (such as

databases and “export alert” services) that will be largely to the sole benefit of Vietnamese registered users;

- The portal and its services should be made available for free to all registered Vietnamese users (i.e., individuals or entities residents or based in Vietnam. These terms should be interpreted broadly and should include individual producers or processors, companies, exporters, trade associations, governmental agencies, academic institutions, non-governmental institutions such as consumer associations, etc.). Certain sections of the portal may be made accessible to the world at large, irrespective of the residency (i.e., the section on the presentation of the website and of the SPS and TBT Agreements, the links section, the feedback section, the events and news section, and the section on frequently asked questions), while others should only be made available, free of charge, to Vietnamese users (i.e., the databases, the “export alert” notification service, the search engines, the libraries);
- The registration process should be done by means of an online fiche to be filled by interested parties and users. A number of examples are provided in the Annexes and can be accessed online to see how they work. With respect to the “export alert” service, if offered, the subscription fiche should be well-organized and detailed enough for the beneficiaries to be able to pin-point with a great level of detail the fields and areas of their commercial interest so that the alerts and notifications may be automatically sent out without risking information overflow and a loss of effectiveness. Again, a number of examples are provided in the Annexes and the model portals may be accessed online to take example in designing the subscription fiches;
- The online services which are offered or made available on the portal should be well-organized and easily identifiable by the end-users. It is recommended that the homepage neatly indicates, by means of active links, the various areas of assistance and information exchange that the users can access. By clicking on the individual link, they will be prompted to thematic pages where they will be able to navigate in search of the specific information;
- On the basis of the models reviewed, of the best practices identified, and of the areas of information that are deemed useful for Vietnam’s “*SPS/TBT Portal*” to have, it is recommended that (at least) the following informative sections be provided by means of weblinks on the portal’s webpage: 1) a “News and Events” section; 2) a “Background Information” section; 3) an “Export Alert” section; 4) a “Search the Databases” section; 5) a “Feedback and Enquiries” section; and 6) a “Contacts and Useful Links” section;
- The “News and Events” section should contain information on relevant domestic and international news of SPS and TBT regulation, standardization, trade-related matters, and other issues of interests to the public at large. Related upcoming events (such as seminars, training modules, conferences, study-tours organized by ministries, competent authorities, international organizations, Vietnamese trade associations or academic institutions, and donor agencies) could be posted in this section. This would increase the visibility of the portal and further draw users’ attention to its resources. Relevant models can be found in the Annexes

provided and by navigating the accessible pages of the country portals indicated in Part 2 of the report;

- The “*Background Information*” section should contain adequate references and basic information on the portal, on the underlying WTO principles and obligations, and on the two Vietnamese networks established to provide SPS and TBT transparency. In particular, the suggestion is made that reference be made to the SPS and TBT Agreements, to the specific provisions of those agreements on transparency (i.e., the legal basis for transparency), to the WTO notification process, to the WTO enquiry network and, more in general, to the WTO institutional framework, its rights and obligations. Reference to the underlying Vietnamese legislation and legal framework that provides for the establishment of the SPS and TBT Offices is also recommended, together with the offices’ administrative and working procedures. Relevant regional (i.e., ASEAN or APEC) or bilateral (i.e., resulting from international agreements entered into by Vietnam) rules or procedures on transparency could also be referred to. A list of “*Frequently Asked Questions*” could also be part of this section and could be regularly updated and consolidated on the basis of the queries received from the portal’s users. A list of the relevant Vietnamese ministries, competent authorities, international organizations, SPS/TBT network and focal points should be provided, together with the contact details of the relevant officials and services;
- The “*Export Alert*” section should be modelled around the many equivalent services offered by most model countries (see the Annexes and the weblinks provided in Part 2 above). This service stand-out as maybe the most important value-added service that a portal could offer (in terms of its trade relevance and commercial appeal for end users). The key aspect of this service rests in its user-friendliness and level of automaticity. The design of the software will be essential. For this system to work well and deliver the intended results, the subscription page must be well crafted. The subscriber must be able to pin-point its interests and areas of operation so that this inputs can be matched with the codes given by the SPS or TBT Office when the newly received notification is uploaded onto the system. On that basis, the “Export Alert” service will automatically send out the notifications to all interested recipients that have signed up. The database of received notifications and the subscription fiche should (at the very minimum) provide for fields of interest organized by type of standard, keyword, area of activity, country of application, traded commodity, and date of notification. Again, a number of relevant and useful examples are provided in the Annexes and in the model portals indicated in Part 2. The suggestion is made that they be carefully reviewed in order to design the subscription fiche and notification database in the best of ways;
- The “Search the Databases” section should include links to all databases available on the portal. These databases could deal with both domestic and foreign technical regulations, standards (mandatory and voluntary), and conformity assessment procedures. Many such online resources are already available and accessible with individual Vietnamese ministries, agencies and/or trade associations (i.e., MARD, PPD, AHD, STAMEQ, NAFIQAVED, VCCI, etc.). They should not be transferred (in terms of their administration,

management and direction), but should simply be integrated, organized and made available (through weblinks and other technical facilities) on the portals. The access to this information is important and should be facilitated by the use of powerful and user-friendly search engines. Links to existing international organizations' databases and online resources are also recommended and should be made;

- The “*Feedback and Enquiries*” section should provide the space and online tools to allow for questions and comments to be put forward, by users and subscribed beneficiaries, to the SPS and TBT Offices via the portal. This section is essential for the business-to-government line of communication and information-exchange. One of the natural weblinks under this section should connect the SPS/TBT Portal to Vietnam’s Market Access Database. Such tool would make it possible (or easier) for Vietnamese “industry” and exporters to indicate to their government the type and nature of the trade barriers that they may be encountering when trying to access third country markets. In as much as many of the modern non-tariff barriers to trade are “hidden” behind measures of SPS or TBT regulation, it appears useful that a clear linkage be made between the aspects of SPS/TBT transparency and the WTO remedies which will soon be available to Vietnam to address or challenge them (if need be even through WTO dispute settlement). As the experience of other countries shows, the public consolidation on dedicated databases of the existing trade barriers often proves as a powerful mechanism to resolve the regulatory issues before they become costly controversies. Giving Vietnamese “industry” and exporters a forum on which to identify such non-tariff barriers is highly recommendable;
- The “*Contacts and Useful Links*” section should provide a detailed list of the relevant Vietnamese ministries, the competent authorities organized on the basis of the areas of SPS or TBT regulation, the international standards-setting organizations, the SPS/TBT network and the central and provincial-level focal points, together with the contact details of the respective officials and services. A list of useful and well-organized links should also be offered so that the users may navigate the corresponding websites and more easily obtain the information needed. This will also reduce the need for direct intervention and feedback by the SPS and TBT Offices. A non-exhaustive list of the suggested weblinks is provided in the Annex;
- In terms of the working procedures, for an effective and speedy functioning of the “Export Alert” service, it is crucial that the incoming notifications (i.e., the ones received by the Vietnamese Government from the WTO) be quickly “processed” and reduced to a summary fiche that can be adequately coded (on the basis of the fields of interest), uploaded on the internal database, and automatically sent out to all interested subscribers. A useful example of such “processing” for purposes of the “Export Alert” service is provided by the Canadian model as Annexed in the report and available online. It is essential that the information be managed and swiftly sent around. Time is of the essence. If that early notification triggers the interest of the end beneficiaries, it will likely result in the need for further information to be collected by the SPS or TBT Offices and in a greater level of detail to be provided. That additional service

may include the provision of value-added services (such as translation or analytical reviews) that can be fee-based and fee generating.

Finally, as indicated above, one general consideration must be made. For an “*SPS/TBT Portal*” to become a powerful mechanism of internal transparency and an effective instrument of commercial value addition, the ultimate beneficiaries (i.e., the Vietnamese “industry” and exporters, but also the governmental authorities and regulators) must be aware of the existence of such tool and must be encouraged and trained at making use of it. Therefore, the awareness-creation of the availability of the portals and of their services is crucial. The recommendation is made that visibility campaigns and outreach activities be conducted to inform all potential stakeholders and beneficiaries of the new service and its benefits.

3.3 Technical Specifications

The following section has been prepared by the Local Expert on IT issues and relates to the technical specifications and requirements that are deemed necessary to develop the software needed to create and manage Vietnam’s “*SPS/TBT Portal*”.

3.3.1 General Requirements

Development Environment and Platforms

Operating Systems:

- ***Windows or Linux;***
- Microsoft Windows 2000 Server and later versions;
- Linux Kernel 2.4 and later versions.

Webserver:

- The system must be integrated with webserver like Microsoft IIS 5+ or Apache 2.0+.

Database Management Systems (DBMS):

- The system must be integrated with DBMSs Microsoft SQL Server 7+, ORACLE 8/9i, PostgreSQL, MySQL or others.

Client Side:

- Any web browsers like Microsoft IE 5.5+, Netscape Navigator 6+.

Extensibility and Scalability

- Portal must be designed to support open standards, easy to upgrade, capable of modifying and adding components when needed. The software must run on multiple platforms, at least on Windows and Linux. It must support open

standards: TCP/IP, HTTP, FTP, SSL, LDAP, XML. Portal software and plugged-in services can greatly benefit from open source community.

User Interface

- The user interfaces (UI) both for viewing and administering are web-based. The portal must have Vietnamese and English UI, and easy to add new languages in future. UNICODE char-set table should be used for encoding and storing text data. Vietnamese documents must be encoded in UNICODE Pre-compound conform to TCVN 6909 standard and must have tools to convert data to UNICODE compound when needed. The interface should be capable of UI customization.

Data Processing

- Portals must be able to process all common data formats e.g. HTML, XML, PostScript, PDF, MS Word, RTF, TeX, Plain text, GIF, JPG, etc. Metadata must conform to Dublin Core standards. Databases in the system must be classified according to International Classifications for Standards (ICS) and other common classifications of information resource. The portals must be integrated with external databases. Data from external databases must be explored, searched, displayed in portal applications.

System Administration and Security

- The system administrator must be able to grant permissions to users and restrict user access according to user roles. The system must support Secure Sockets Layer (SSL). Portals must have load-balancing and fail-over mechanisms. The system must be capable to allow “transactions undo”. The system must have system log for recording user’s operations and it must be capable to allow database backup and recovery.

3.3.2 Portal Infrastructure Requirements

Requirements of Portal infrastructure

- Portal infrastructure is a framework for integrating other applications and services. It must be able to extend and it must have powerful development tools. It must be secure and stable. It must be able to shortly recover the operation of the system after hardware interruption.

- It must handle many concurrent connections with committed performance, it can provide solutions to anti-virus on servers, and it can automatically detect virus in incoming data. It must allow the administrator to control the entire system operations (i.e., internal information locking, access restriction, etc.).
- It must integrate well with external tools used for transactions analysis and statistics (i.e., users' access by weeks, months, years, most viewed pages, etc.) and it must have a logical, detailed and easy to use online help system. It must allow viewers to conveniently print portal contents and conform to registered and accepted domain names. It should be based on open (i.e., portal infrastructure must be developed on top of an open source application).

Components of Portal Infrastructure

Categorization:

- Categorization allows editors to organize information in a hierarchical structure, included braches and levels. Each branch might contains information items and sub-braches;
- Categorization must be designed to use an arbitrary classification;
- Administrators can add new, delete, move, rename any branch in the hierarchy;
- Can automatically categorize contents according to a predefined classification based on attributes of contents (i.e., Dublin Core metadata);
- Categorization helps users to find their desired information easier;
- Categorization can be shown in different ways (i.e., in a tree view or like in "Yahoo!").

Search Engine:

- Enables the retrieval of documents based on criteria specified by the end user;
- Can index different data formats like HTML, XML, PostScript, PDF, MS Word, PowerPoint, Excel, RTF, TEX, Plain text;
- Search results must be converted into HTML and keep the original layout, in order to view over the Web;
- Capable of full-text search and search on attributes of information e.g. Dublin Core metadata;
- Provide both quick search and advanced search. Advanced search combines various search elements using logical operators that allow users to search for related information or information in a common subject and sort results on different criteria;
- Must perform search on Vietnamese documents precisely using different char-set table like Unicode, TCVN, VNI. Search results must be converted automatically into Unicode;
- Searching must be not case sensitive and must be tone marking style independent for Vietnamese words.

User Management, Authentication and Privilege Delegation by Roles:

- Allows administrators to define roles and assign permissions to roles;
- Allows one user to have multiple roles, as well as many users can have the same roles;
- User roles can be applied to individual objects (service, folder, news item, user groups, etc.), roles contain permissions e.g. view, delete, add new, modify;
- Permission must be able to be acquired;
- Must have management screen for managing users, groups, assigning roles to users and groups on any objects;
- Can restrict object access, copy or download.

Personalization:

- Deliver content based on user's role: Portal Server includes the ability to automatically choose which applications users are able to access or to use, based on their role within the organization;
- Aggregate and personalize content for multiple users: Portal Server enables an enterprise or service provider to aggregate and deliver personalized content to multiple communities of users simultaneously;
- Users can create personalized pages that contain their favorite information collected from all contents inside the system;
- Items in a personalized page are not copies of the documents, they just refer to original ones;
- All contents, included dynamic contents must be able to be added into personalized pages;
- Users can customize the layout of their personalized pages and content;
- Users can manage their favorite for faster access in future.

Single Sign-on:

- Users just have to login to Portal only one time and use all services in Portal that they have permissions to access without re-login;
- To implement single sign-on, services and applications in Portal should use the authentication and privilege delegation mechanism that described in section 2.3 above;
- Web-based management screen;
- All administration operations must be done over a web-based management screen;
- Administration operations must contain: restart or shutdown services, database configurations, set schedule for checking, replicating database, set schedule for aggregating external data, monitor system statistics;
- Operations like categorizing, indexing, re-indexing, customizing template layout, etc. must be done over management screen;
- Management screen must provide other useful information (i.e., access log, error log, etc.).

Additional Components:

- The system must have load-balancing and fail-over mechanism;
- Support authentication using LDAP: system must be able to authenticate users using external user database over LDAP;
- Support SSL: both for SSL 64-bit and 128-bit;
- Must be exchange information over internet: system must be able to communicate with other systems conform to RSS standard in both ways, i.e., Server (provide information) and Client (aggregate information).

Managing Information:

- Users can manage information within their authority;
- Users can not print, copy, etc. if they don't have appropriate permissions;
- ***Integration with e-library application***

3.3.3 Portal Services Requirements

Portal services must be developed on the basis of the Portal infrastructure that is described in section 3.3.1 above. They should contain at least the following services:

Content Management System

Content Management System (CMS) must ensure an entire process of adding, editing, reviewing, publishing, storing, deleting and searching over the Web. The entire process must be controlled by workflows and privilege delegation mechanism. The detailed features of a Content Management System are:

Access Control and Privilege Delegation:

- Must have a role-based access control and privilege delegation;
- Must predefine some important roles (i.e., Contributor, Editor, Reviewer, Manager, etc.). These roles could be assigned on every single branch;
- Contents in CMS must have states (i.e., “initial”, “pending”, “published”, etc.). The number of states depends on types of contents and should not be hard coded;
- Content Management System must have workflow engine to control access rely on state of contents.

Adding Contents into CMS:

- Allows users to create new contents like documents, news item, links, events, files, etc. over the Web;
- Allows users to edit Dublin Core metadata;

- Can import contents form different formats like Word, PDF, PostScript, TeX, RichText, etc. which support full-text search and display imported contents as HTML format;
- Support HTTP, FTP, WebDAV protocols that allow users can use external editor (i.e., Macromedia Dreamweaver) to edit contents;
- Has a web-based visual editor that helps users to insert images, links, format, copy, cut, paste text easily without any HTML knowledge;
- Visual editor must integrate a spell check program (at least for Vietnamese and English) and Vietnamese input tools;
- Provide two search forms: Quick search (full-text search only) and advanced search (combines many searching and sorting criteria);
- Allows users to undo mistaken operations on managing contents.

Editing and Reviewing Contents:

- Editing and reviewing process must base on privilege delegation mechanism and workflow engine. This process can be changed flexibly when needed.
- Automatically informs reviewers about pending contents that are waiting for review whenever they login.
- Reviewers can edit contents, properties and metadata.
- After editing, reviewer can publish contents (i.e., can set an effective time for published contents) and/or reject contents (i.e., return contents to the editor including comments or reasons for rejection).

Saving Contents into Database:

- Must use UNICODE char-set table for encrypting texture data. Vietnamese characters must use UNICODE TCVN 6909;
- CMS must provide a tool for converting data from UNICODE Pre-compound to UNICODE compound when needed;
- Metadata must conform to Dublin Core standards.

Publishing Contents:

- CMS must allow reviewers to set the effective date and the expiration date for published contents;
- Expired contents will be kept as archives and must be able to be searched;
- Published contents must be displayed on the effective date.

Exploring Contents:

- Users can explore contents in many ways (i.e., by using categorization, by using search tools, or by using both categorization and search tool and searching in a specific branch of categorization);

- All contents in CMS must be categorized. CMS must provide tool for building categorization based on any classification;
- Provide two search forms, quick search and advanced search. Search results must be converted to Unicode automatically.

Customization and Personalization:

- Using customization and personalization mechanism of Portal infrastructure (described in section II.2.4), Content Management System must allow administrators to customize layout according to user roles and allow users to personalize their own layout;
- Personalization mechanism must allow users to change the layout of their portal pages. There must be two personalization levels: 1) to select one from a list of predefined layout; or 2) to personalize layout and contents inside a page. Users can relocate positions of contents, change the source of contents to be displayed;
- User's changes must be saved and reloaded in the next login time;
- Each user can create a list of references to their favorite contents (similar to favorites in Internet Explorer). Users can add, delete items in this list easily.

Communication with other Systems:

- Based on RSS standard (described in section II.2.7), CMS must provide the two following features:
- News syndication: allows other websites can reuse information of CMS within syndicated channel by downloading RSS feeds in XML format;
- News aggregation: allows CMS reuse information from RSS feed supplier channel. Administrator can set schedule for aggregation. After aggregated, all news headlines (included some metadata) extracted from RSS feeds will be saved into CMS database and can be used like any other CMS contents.

Collaboration Services

Fora:

- Must have sufficient features of a modern forum;
- Administrators can add, edit, or delete fora and topics easily. Forum members can post messages in forum topics and even create new topics if they have enough permission. Administrators can set other members to be moderators in sub-branches, these members then have manager privilege in those branches;
- Allows members to post messages, articles, documents, images and attach files;
- Administrators and moderators can review post messages and can notify, warn or ban any member;
- Have tools to manage user's subscription and user track;
- Must support multilingual user interface.

Webmail:

- A web-based e-mail client with rich features like file attachment, address book, support IMAP or POP3, etc.;
- Can manage user's subscription and profiles;
- Support SSL and HTTPs;
- Can communicate with other Portal services;
- Must support multilingual user interface.

Event Calendar:

- Allows users to create upcoming events that associated with a calendar application;
- Events include some information like event type, location, time, attendance, etc.;
- Upcoming events can be notified to related users over e-mail or mobile SMS;
- Can list or filter events by weeks, months, years;
- User interface must be web-based and support multilingual.

Online Dictionary:

Is an application that helps users to look up dictionary over the Web. These dictionaries are web-based and have to provide precisely explanations, examples and links to other words that mentioned in explanations. They must support some common dictionaries as following:

- English - Vietnamese Dictionary; Vietnamese - English Dictionary;
- French - Vietnamese Dictionary; Vietnamese - French Dictionary;
- English Dictionary.

Polling:

- Helps collecting user's opinions about a specific subject;
- Can create new polls easily;
- Can produce statistics on user's votes and keep results as archives;
- Web-based user interface and multilingual support;

Electronic database integration (EBSCO, LexB, etc.);

- Can communicate with external commerce e-databases or internal databases based on SQL or other software;
- Can manage accounts and grant privileges to access e-databases.
- Support user-defined data searching, then automatically reply to user (such as VDC Newsletter);
- FAQ section.

4. Conclusions

On the basis of the research and analysis conducted, of the review of third country models and available best practices, of the discussions held between and among the EU Expert, the Local Experts, the officials of the SPS and TBT Offices, and the participants to the Policy Networking Sessions, a number of recommendations, suggestions and technical specifications have been made in relation to the design, creation and management of Vietnam's "*SPS/TBT Portal*".

They are intended to provide the basis for the technical work to be conducted during the second phase of Activity SPS/TBT-3 by the Local Experts, in coordination with MUTRAP's PTF, to design the technical aspects of the "*SPS/TBT Portal*" (the web design and the software programs) and organize the tendering dossiers to perform the necessary government procurement (i.e., launching the bidding process for IT and software design companies to create and make operational the internet-based portal).

For a full comprehension of the regulatory, legal, administrative, technical and infrastructural framework, this report must be read in conjunction with the submissions made by the Local Experts, the report by the EU Key Expert and Local Experts on the "*Advice on How to Adequately Equip the SPS and TBT Enquiry Points and Notification Authorities*", and the Annexes providing for actual examples of other countries' models and technical features.

The recommendation is also made that, in designing the software and selecting the detailed information that will be needed to create the online subscription or registration fiches, the automatic notification software, and the chosen databases and search engines, reference be made to the structures and web-designs offered in the Annexes and available online by clicking on the suggested weblinks of other countries' systems and internet-based portals.

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