UNECE



# **Training Manual**



# UNITED NATIONS ECONOMIC COMMISSION FOR EUROPE

# Trade facilitation for easier access to regional and global markets

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## INTRODUCTION

In 2015, The United Nations Economic Commission for Europe (UNECE) completed the study "<u>Regulatory and Procedural Barriers to Trade in Kyrgyzstan</u>", which highlighted the impact of such barriers on the country's export competitiveness and regional integration. To address them, the assessment recommended the establishment of "training facilities, equipped with trained staff and training material adapted to the local context, within relevant market support institutions in order to familiarize traders with emerging trends in supply chain management marketing, outsourcing and financial management".

This manual intends to provide an overview of available strategies to better integrate the country into the regional and global supply chains from a trade facilitation perspective. Supply chain management, the facilitation of import and export procedures, and single window implementation are part of these strategies. The idea behind this is the harmonization, simplification and standardization of procedures and information flows, which reduces the time and cost of doing trade significantly.

Drafted in collaboration with the Eurasian Economic Commission and based on United Nations and other international organizations' recommendations, this training manual takes into account the new Customs Code of the Eurasian Economic Union (recently entered into force), and World Trade Organization Trade Facilitation Agreement. In such context, it provides recommendations to the Kyrgyz government and trading community on how to integrate its key provisions into national policies, legislation and regulation.

The manual consists of three modules, with the first session of each module targeting policymakers involved in policy formulation, followed by three technical sessions for project managers and government experts involved in policy implementation, and for representatives of the private sector for them to gain a better understanding of trade facilitation concepts and approaches. The last part of the manual contains training methodologies that trainers can use to prepare training sessions based on the proposed training contents.

We hope that this training manual will support the efforts to strengthen the capacity of government agencies and the trading community of Kyrgyzstan to strengthen its competitiveness and access to regional and global markets, in support of sustainable and inclusive economic development.

## MODULE 1: SUPPLY CHAIN MANAGEMENT

SESSION 1

THE ROLE OF REGIONAL AND GLOBAL VALUE CHAINS IN ECONOMIC DEVELOPMENT

# **1.** What are supply chains, what are value chains and how are they related?

There are many similar, but slightly different definitions for both supply chains and value chains. Here, we will focus on the main concepts. Starting with the definitions from the World Bank (WB), below, you can begin to see the relationship between these two concepts.

Supply chain management (SCM) is the process through which a company manages the sourcing and procurement of inputs, the processing and manufacture of products and services, and their delivery to the consumer. The primary objective of supply chain management is to meet consumer demand with more efficient use of resources including labour, inventory, stock, and distribution capacity. (World Bank, 2012)

From a business organization perspective, value chains describe the sequence of productive (value added) activities that capital and labour (or firms and workers) perform to bring a good or service from its conception to end use and beyond. They are said to be "global" when they include steps, processes, and actors from at least two countries. (Taglioni, Winkler, 2016)

The development of supply chains and value chains created a "revolution" in trade theory which was previously based on countries trading only in final products. Today, production processes can be sliced into segments that correspond to discrete tasks and can be located across multiple borders where companies in each country add value to the final product. This complicates the collection of statistics on international trade (the collection of which is based more on the old model of trade in final products) and has important implications for trade policy. The illustration below shows an important aspect of this information "puzzle" (double counting) which has trade policy implications (discussed in depth during session 2).





Source: United Nations Conference on Trade and Development (UNCTAD) World Investment Report 2013

To address this statistical challenge, the Organization for Economic Cooperation and Development (OECD) and the World Trade Organization (WTO) have developed a database on Trade in Value Added<sup>3</sup>, which tries to measure Global Value Chain (GVC) forward linkages (value added exports of a country which are incorporated into the exports of other countries) and backward linkages (foreign value added imports which are incorporated into the gross exports of a country).

This database currently covers only 63 countries. For those countries, it is a useful tool in analysing and understanding their participation in value chains and, therefore, for strategic planning in this area. Participation in this initiative is open, so if your country is not included it may be worthwhile to review the methodology used<sup>4</sup> and then to contact the WTO or OECD secretariats about joining. (Questions can be sent to tiva.contact@oecd.org.)

#### **1.1 History**

Logistical supply chains have their early origins in support for military campaigns, and the use of "supply chains" for gaining competitive advantage goes back to Philip II of Macedonia (359-336 BC) and his son, Alexander the Great. Then, in the early 20th century, the invention and widespread implementation of assemblyline manufacturing saw the creation of manufacturing supply chains where various parts of a final product could be manufactured in different locations. After, the concept evolved based on: industrial engineering (time and motion studies) in the early 20th century; the invention of standardized pallets in the 1940s; the development of containerized shipping, logistics services and bar codes during the 1950s and 1960s; the exponential growth in computing to support manufacturing and logistics which started in the early 1980s; and the Internet revolution in communications which began in the early 1990s. (Robinson, Adam 2015)

The term "value chain" was invented in 1985 by Michael Porter in his book, The Competitive Advantage: Creating and Sustaining Superior Performance. Porter developed the value-chain concept in order to help companies identify where they could improve their competitive advantage by increasing the value added that they offered to customers. Value-chain analysis looks at each activity along the supply chain (i.e. inbound logistics, manufacturing operations, outbound logistics, marketing and after-sales service) as well as each activity supporting the supply chain (i.e. purchasing, research and development, human resource development and corporate infrastructure). It then asks questions such as: What value added does this activity provide to the customer? Is there a way to increase this value added? Are there linkages between this activity and the value added created by other activities (e.g. can a linkage be found between human resources training and additional value created in a range of activities such as new product development and quality control)? (Porter, Michael 1985)

This can be contrasted with supply chain analysis which has been used primarily to reduce costs and create more efficient processes. These, of course, also improve competitiveness and increase the value added to customers. At the same time, an analytical focus on the time and cost "accounting" aspects of product and service creation overlooks other aspects of value added for customers that could increase competitiveness such as new functionalities, services, information, etc.

This is summarized well in this statement by Andrew Feller, "Supply chains focus upstream on integrating supplier and producer processes, improving efficiency and reducing waste, while value chains focus downstream, on creating value in the eyes of the customer." (Feller, Shunk, Callarman 2006). Another summary perspective is given in the text and illustration below.

<sup>&</sup>lt;sup>3</sup> http://www.oecd.org/sti/ind/measuringtradeinvalue addedanoecd-wtojointinitiative.htm

<sup>&</sup>lt;sup>4</sup> http://www.oecd.org/sti/ind/tiva/tivasourcesandmethods.htm





"The value chain and the supply chain are so closely related that it is essentially looking at the same flow from two different perspectives...The supply chain describes the flow of resources from the supplier to the customer. The value chain is the flow of value (as perceived by the customer) [...] If the customer perceives no value in what the supply chain provides, there will be no demand. If the supply chain cannot deliver resources that the customer values (at the price the customer is willing to pay) there will be no flow." (Weiner, 2014)

Because value chains include supply chain activities with an additional focus on

improving competitiveness, and because they have larger policy implications, during the last decade "Value Chains (VCs)" and "Global Value Chains (GVCs)" have largely displaced "Supply Chains" and "Global Supply Chains (GSCs)" in the international discourse on these topics. For example, APICS (the American Production and Inventory Control Society) considers that supply chains have as their purpose to "enable the value chain to make products and provide services to the customer" (Cox, Blackstone, Spencer 1995). In view of the above, the rest of this module will focus on value chains, taking into account the activities in the supply chain which support value chains.

Almost all products that are sold are part of a value chain (an exception being farmer's produce sold by the farmer directly to the consumer). At the same time, this training is focused on regional and global value chains. Much of the literature currently speaks about "Global Value Chains" (GVCs) and they typically are referring to GVCs that are orchestrated by large, multinational corporations (MNCs). At the same time, Regional Value Chains are also important economic players and, although it is little recognized; today, using electronic commerce, even Small and Medium Enterprises (SMEs) can orchestrate micro-global value chains.

When quoting other organizations and texts, this module will keep their original terminology (typically "GVC") but in other instances will refer to value chains (VCs) without distinguishing between regional and global VCs, unless discussing characteristics that are unique to one or the other.

# **2.** Economic diversification and benefits from regional and global value chain participation

The opportunities provided by value chains for increased economic diversification have been summarized by the Overseas Development Institute (ODI) and the Brookings Institute:

Economic transformation [through diversification] involves the movement of factors of production [i.e. resources, including labour] toward higher productivity and/or value-addition firms or sectors... Trade can support this process, e.g. through its impact on firm competitiveness – [by creating] access to cheaper and better quality inputs, and opportunity to take advantage of economies of scale. The literature on GVCs further suggests a new way of looking at economic transformation (which was traditionally seen as moving from agriculture to manufacturing and services). Integration in global production networks allows countries to unlock their comparative advantage, but rather than focusing on producing all parts of the entire chain, it is now possible to focus on specific tasks and sub-sectors. (ODI, 2015)

Today, the rise of global value chains (GVCs) enables developing countries to slot themselves into a part of the production chain without having to produce a complete, final good" (Brookings Institute, 2017)

To give an example, rather than needing to manufacture an entire car, computer or jacket for export, as part of a value chain, a company can manufacture and export only the seat of the car, the case for the computer or the zipper for the jacket. In doing this, the company develops expertise that can be extended to cover more parts that are used in the final product or similar parts in other products. For example, the manufacturer of the case for computers may then be able to develop and market other moulded-plastic or metal cases for televisions, telephones, tools, etc.

In a report for the G20 on value chains, the OECD has said, "GVCs are especially important for developing countries, for which the best metaphor would not be a chain but a ladder. The disaggregation of production into separate stages allows their firms not only to find their place on the ladder, but to move up the rungs as their capabilities improve. GVCs encourage that upward movement by rewarding skills, learning, and innovation. Overcoming obstacles to GVC participation can pay big dividends; developing economies with the fastest growing GVC participation have gross domestic product (GDP) per capita growth rates 2% above average." (Kowalski, P. et al. 2015)

The following chart from UNCTAD's 2013 World Investment Report shows how, in a survey of 125 developing countries, those with increased VC participation have also had higher per capita GDP growth rate.



# Figure 1.2 GDP per capita growth rates for countries with high/low growth in GVC participation, and high/low growth in domestic value added share, 1990 to 2010

Source: UNCTAD World Investment Report 2013, page 170

This chart includes data from 125 developing countries, ranked by growth in GVC participation and domestic value added share; high includes the top two quartiles of both rankings, low includes the bottom two; GDP per capita growth rates reported are median values for each quadrant.

Value Chains (VCs) are usually organized or "orchestrated" by one company, often the company that designs and/or markets the final product (be it to companies or individual consumers). An example is Apple which designs and markets its iPhones (and other products), as well as orchestrating the underlying value chain.

Most often, the VC organizer is a large global or regional multinational enterprise (MNE), although it may also be a domestic company or even a SME. Today, using electronic commerce, an SME can also orchestrate a micro-global value chain (mGVC), purchasing a wide range of parts and services from around the world, to which it adds value (i.e. through assembly, packaging and sales) and then sells both domestically and internationally. Being the organizer of an mGVC allows an SME to diversify by creating competitively priced products even when they do not have all the expertise required to create the product alone.

As this illustrates, there are a wide variety of ways that companies can participate directly and indirectly in value chains. This is, in part, because value chains are not actually organized as linear sequences of transactions, as their name might imply, but rather as complex networks of hubs and spokes.

Each VC hub is in direct communication with the VC organizer and thus is a major link along the relatively sequential value chain that leads to the creation of a final product. At the same time, they are the centre of a network of "VC spokes" (which, together, we will refer to as "VC hub networks") that participate indirectly by supplying the "VC hub" with parts and services. In many publications, VC hubs are referred to as "lead firms", however, we prefer the term "VC hub" as it emphasizes the linkages between these firm and others (and avoids confusing the hubs with the principal GVC organizer/orchestrator firm.

One example of a VC hub could be a manufacturer of car seats in Indonesia which exports finished seats to a car assembly plant in Europe. At the same time, this VC hub also supports a network of companies who participate by supplying the hub. Such suppliers could include companies in China (for the metal tubing used in the frame, and special heavy-duty thread), as well as domestic companies (for the seat's fabric, sewing equipment, services such as training for their welders, and information technology for their website and accounting needs). Much of the employment created by VCs comes not from the VC hub itself, but rather from the participation of domestic companies in the hub's supporting network.

Indeed, it is within the "spokes" of these domestic VC hubs that a wide range of opportunities present themselves for Micro, Small and Medium-Sized Enterprises (MSMEs) to participate in regional and global VCs of all sizes.

The illustration below shows the different ways that VC participation can transmit value into the domestic economy.



Figure 1.3 Transmission channels from global value-chain participation to the domestic economy

Source: "Global value chain report 2017, Measuring and analysing the impact of GVCs on economic development". (WTO, World Bank, IDE-JETRO, OECD, UIBE, 2017).

Developing the participation of a country in value chains depends, first, on creating an environment that supports the establishment of VC hubs (including through foreign direct investment) and their business activities. Foreign direct investment is important for supporting participation in regional and global value chains because the subsidiaries of foreign firms tend to participate more often in multinational value chains than domestic firms, and when they are VC participants they are most frequently also VC hubs.

At the same time, increased economic benefits can be gained by strengthening and supporting the ability of local enterprises to participate in "VC hub networks" in a way that will support hubs' competitiveness (and thus their ability to continue participating in a VC). In addition, industrial policy may want to promote participation in VCs where the hubs can procure proportionally more inputs from domestic sources.

For example, if there is an existing workforce and enterprise network with expertise in metalworking, it may create more domestic employment to encourage participation in VCs where products created by the hubs require metalworking, rather than plastic moulding or wood work (which, lacking locally competitive suppliers, the VC hub might need to import). This encourages diversification based on existing competitive advantages.

In today's world, services play an increasingly important role in manufacturing products and in exports. For example, the average "services content" of exports from G20 countries is 42% and goes up to as high as 50% (Kowalski, P. et al. 2015). These services include activities ranging from financing to design, information technology to packaging, transportation and many others. Participating in VCs also helps countries to diversify and strengthen their services sectors which, in turn, will make them a more attractive destination for further VC investment.

As an example, in agricultural exports, services can add value during various stages of the value chain. Such services can include: agriculture extension services, rental of harvesting or processing equipment, packaging, refrigeration, warehousing, marketing and transportation (Page 16, Kowalski, P. et al., 2015). Once available, many of these services can provide support to different agricultural value chains. Another study, by the OECD, notes how participation in VCs has supported diversification into more advanced operations (i.e. services). "Some developing countries have benefited not just from the foreign investments in the production of goods and services, but increasingly in more advanced operations such as research, design, and innovation. These higher value added investments have mostly benefited countries with a certain degree of local knowledge capacities and large domestic markets (e.g. China and India). These countries are highly attractive as both platforms and markets, where the growing skills of an emerging middle class coincide with the rising incomes of those same producers and consumers. Some small economies have also managed to benefit from the new forms of organization of production, thanks to strong framework conditions, sometimes combined with has gradually gained ground as a location for high-end manufacturing in small-scale, high value added production (e.g. medical devices). This growing integration of some developing countries into GVCs has been the result of a concurrence of factors, including new business strategies in the home and in the hosting countries, targeted policies to promote integration and internationalization and new forms of public-private partnerships. (OECD, 2013)

Another way to look at a value chain is to see it as a process with linked activities that move from the producer (downstream) toward the consumer (upstream). Research has shown that the activities at the ends of this chain, i.e. before production (research and development, design and brand-building) and post production (marketing and after-sales service) tend to create the most value added and tend to be undertaken in developed countries. In contrast, the production stage activities in the middle tend to be concentrated in developing countries and tend to have a lower value added. (Page 54, WTO, WB, IDE-JETRO, OECD, UIBE, 2017) This is illustrated in the two diagrams below. As a result, policymakers in developing countries need to look both at strategies for developing participation in value chains (to get their "foot in the door") and for eventually moving out from the centre of the chain towards the ends to capture more of the value added.

In the same country, different sectors may be in different positions, with different capabilities, thus requiring different strategies. For example, in the textile sector there may be companies that are already participating in value chains, while in another sector such as agriculture, there may be very little participation.



#### Figure 1.4 The distribution of value added along value chains





A sizable percentage of all trade tends to be with regional trading partners. Therefore, regional value chains can make a valuable contribution both to increasing overall trade and to "training" local companies so that they can later move "up" to participation in global value chains. This occurs when participation in a regional value chain supports:

- An acceleration in the sophistication and diversification of an economy;
- The development of new dynamic comparative advantages and
- Participation in higher added-value segments of global value chains. (UNECA 2014)

Indeed, a 2015 OECD study paper on the "Participation of Developing Countries in Global Value Chains" states that, "In general, survival rates [of exporting companies] seem to be linked to higher levels of intra-regional trade, which suggests that regional integration can be a way of learning by doing and as preparation for competition in global markets." (Kowalski, P. et al. 2015)

At the same time, the presence of international competition for participation in GVCs plays a significant role in stimulating and generating high-quality firms domestically. An excellent table summarizing the

benefits of VC participation for developing countries can be found in Annex 1. Session 2 will look in more depth at the domestic policy aspects of supporting a country's participation in value chains.

#### **KEY HIGHLIGHTS**

#### The role of regional and global value chains in economic development

- 1) "Supply chains focus upstream on integrating supplier and producer processes, improving efficiency and reducing waste, while value chains focus downstream, on creating value in the eyes of the customer." (Feller, Shunk, Callarman 2006)
- "Integration in global production networks allows countries to unlock their comparative advantage... rather than focusing on producing all parts of the entire chain, it is now possible to focus on specific tasks and sub-sectors." (ODI 2015)
- 3) "Value chains" are not organized as linear sequences of transactions, but rather as complex networks of hubs and spokes. Each VC hub is in direct communication with the VC organizer (usually a large global or regional multi-national enterprise) and thus is a major link in the value chain. At the same time, each hub is the centre of a network of "VC spokes" that participate indirectly by supplying the "VC hub" with parts and services. The most important opportunities for MSMEs are as VC spokes, and this is also an important source of employment linked to VCs.
- 4) Using electronic commerce, an SME can orchestrate a micro global value chain (mGVC), purchasing parts and services from around the world, to which it adds value by creating a final product. An mGVC can allow an SME to diversify by creating competitively priced products even when they do not have the expertise required for creating the product alone.
- 5) Developing a country's participation in value chains depends, first, on creating an environment that supports the establishment (including through foreign direct investment) and the business operations of VC hubs.
- 6) Services play an increasingly vital role in manufacturing and production (for example, design, information technology, transportation, etc.). Participating in VCs helps countries to diversify and strengthen their service sectors which, in turn, will make them a more attractive destination for further VC investment.
- Policymakers in developing countries need to look both at strategies for developing participation in value chains (to get their "foot in the door") and for eventually moving toward activities that capture more of the value added.
- 8) In the same country, different sectors may have different VC capabilities, thus requiring different strategies.
- 9) A sizable percentage of all trade is with regional trading partners. Therefore, regional value chains can make a valuable contribution both to increasing overall trade and to "training" local companies so that they can later move "up" to participation in global value chains.

## Annex 1 (Module 1: Session 1)

# Development impact of global value chains: highlights and findings

Impact Areas	Highlights of findings
Local value capture	<ul> <li>GVC participation can generate value added in domestic economies and can contribute to faster GDP growth.</li> <li>Concerns exist that the value added contribution of GVCs is often limited where imported contents of exports are high and where GVC participation is limited to a small or lower value part of the overall GVC or end-product.</li> <li>Transnational corporations (TNCs) and their affiliates can provide opportunities for local firms to participate in GVCs, generating additional value added through local sourcing, often through non-equity relationships.</li> <li>A large part of GVC value added in developing economies is generated by affiliates of TNCs. This raises concerns that value can be leaked (e.g. through transfer price manipulation). Also, part of the earnings of affiliates will be repatriated, with possible effects on the balance of payments, although evidence shows that these effects are limited in most cases.</li> </ul>
Job creation, income generation and employment quality	<ul> <li>GVC participation tends to lead to job creation in developing countries and to higher employment growth, even if GVC participation depends on imported contents in exports; GVC participation tends to have, with variations by country and industry, a positive effect on the employment of women.</li> <li>GVC participation can lead to increases in both skilled and unskilled employment; skill levels vary with the value added of activities.</li> <li>Pressures on costs from global buyers mean that GVC-related employment can be insecure and involve poor working conditions.</li> <li>Stability of employment in GVCs can be relatively low as oscillations in demand are reinforced along value chains, although firm relationships in GVCs can also enhance continuity of demand and employment.</li> </ul>
Technology dissemination and skills building	<ul> <li>Knowledge transfer from TNCs to local firms operating in GVCs depends on knowledge complexity and codifiability, on the nature of inter-firm relationships and value chain governance, and on absorptive capacities.</li> <li>GVCs can also act as barriers to learning for local firms, or limit learning opportunities to a few firms. Local firms may also remain locked into low-technology (and low value added) activities.</li> </ul>
Social and environmental impacts	<ul> <li>GVCs can serve as a mechanism for transferring international best practices in social and environmental efforts, e.g. through corporate social responsibility (CSR) standards. Implementation of standards below the first tier of the supply chain remains a challenge.</li> <li>Working conditions and compliance with applicable standards in firms supplying to GVCs have been a source of concern where they are based on low-cost labour in countries with relatively weak regulatory environments. Impacts on working conditions can be positive within TNCs or their key contractors, where they operate harmonized human resource practices, use regular workers, comply with applicable CSR standards and mitigate risks associated with cyclical changes in demand.</li> </ul>

	<ul> <li>GVCs cause environmental impacts (such as greenhouse gas emissions) of demand in one country to be distributed across many other countries. Lead firms in GVCs are making efforts to help supplier firms reduce environmental impacts.</li> </ul>
Upgrading and building long term	• GVCs can offer longer-term development opportunities if local firms manage to increase productivity and upgrade to activities with higher value added in GVCs.
productive capabilities	<ul> <li>Some forms of GVC participation can cause long-term dependency on a narrow technology base and on access to TNC-governed value chains for activities with limited value added.</li> </ul>
	• The capacity of local firms to avoid such dependency and the potential for them to upgrade depends on the value chain in which they are engaged, the nature of inter-firm relationships, absorptive capacities and framework conditions in the local business environment.
	• At the country level, successful GVC upgrading paths involve not only growing participation in GVCs but also the creation of higher domestic value added and the gradual expansion of participation in GVCs of increasing technological sophistication.

Source: UNCTAD 2013 WORLD INVESTMENT REPORT, PAGE 149

#### **Resources** (Module 1: Session 1)

APICS: A Supply Chain Management Association who have an SCM reference model and several certification programmes. <u>http://www.apics.org/</u>. Accessed 10 April 2018.

Organization for Economic Cooperation and Development (2016). Trade in Value Added (TiVA) Indicators Database. Available from <u>http://www.oecd.org/sti/ind/measuringtradeinvalue addedanoecd-wtojointinitiative.htm</u>. Accessed 10 April 2018.

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#### SESSION 2 PUBLIC POLICIES THAT SUPPORT NATIONAL PARTICIPATION IN GLOBAL VALUE CHAINS – AN OVERVIEW

### Introduction

Intermediate goods are goods that are used in final products, such as the brakes for a car or the hard disk for a computer. These goods are, by their nature, part of a value chain. Today over 70 per cent of trade is in intermediate goods and services or capital goods (such as manufacturing equipment) and are therefore part of regional and global value chains (VCs).

In addition, an increasing percentage of the world's exports (whether final or intermediate goods) include foreign, imported content (see figure 1) and, therefore, are part of a VC. The numbers shown are even more impressive when you consider that exports of primary goods (such as oil, gas and copper) are included, and these goods do not usually contain imported content. These figures reflect an increasing specialization in manufacturing and services. Because no country can be the most efficient and cost-effective producer of everything when there is competition at every step in the process, this increased specialization makes it extremely difficult to develop vertically integrated industries which are competitive -- and the more complex a product is (such as electronics or autos) the more this is true.



#### Figure 1.6 Import content of exports

Source: OECD (2017), Import content of exports (indicator). (Accessed on 10 April 2018), https://data.oecd.org/trade/import-content-of-exports.htm

As a result, if countries wish to use trade as a tool for economic development, and especially if they wish to increase the national value added in exports (rather than exporting commodities with little or no value added) participation in regional or global VCs has become a necessity.

Supporting a country's participation in VCs requires a holistic approach. Value Chains and the lead businesses that orchestrate them are focused on results, and end results depend upon many factors. The degree to which each these factors exist in a country will impact the level of VC investment and the success of companies attempting to participate in VCs. As an example, take just two factors: how easy it

is to set up and run a business and the ability to import needed manufacturing inputs. If it is easy to set up and run a business but not possible to import necessary product parts in a predictable and cost-effective manner, there will be very little VC investment. Likewise, there will be little investment if it is difficult to set up and run a business but easy to import needed parts.

As this example illustrates, public policy can either support or undermine the ability of the private sector to successfully participate in VCs. In addition, active public policy input is needed in order to create the greatest level of economic benefit to citizens from VCs and to prevent possible negative impacts on the social and environmental development of a country (for example, due to competitive pressures on wages and operating costs).

For a variety of reasons, not all countries are equally involved in regional or global VCs. Some reasons are linked to factors that cannot be changed, such as geographic location and resource endowment. Others can be influenced by public policy, such as the business environment, human resources, infrastructure, etc. This session will focus on these last factors and the vital role that public policy has in creating positive outcomes and supporting sustainable development through participation in VCs.

Policies to support participation in VCs can also have other, positive impacts. For example, improving the business environment also supports the healthy functioning of domestic firms, even if they do not participate in value chains or international trade. Another example is reducing non-tariff barriers to trade, which can help domestic manufacturers with the timely and cost-efficient procurement of imported inputs (thus making them more competitive on domestic markets) as well as with the reliable shipment and competitive pricing of their exports.

These two policy examples are also important for encouraging foreign direct investment (FDI) and FDI often plays a key role in value chain participation. FDI is normally attracted to a country for one of two reasons: 1) to take advantage of large domestic markets (or large regional common markets) and 2) to participate in regional or global VCs, building upon local competitive advantages in one or more VC activities. This second kind of investment can form the "anchor" for further VC participation by domestic firms. Companies supported by FDI often act as the focal points for VC hubs (see the previous session) and, therefore, play an important role in densification (i.e. the increased participation of domestic firms in regional and global VCs).

The role of public policy in encouraging FDI and maximizing economic spillovers is important. Therefore, it is important that the work of countries' national investment promotion agencies be coordinated with government policies for supporting increased value-chain participation. This is particularly true in the area of economic spillovers from FDI, which can be directly encouraged by the incentives offered to prospective investors.

Public policy can also support and encourage the participation of Micro, Small and Medium-Sized Enterprises (MSMEs) in VC hubs. For example, in many countries the process for obtaining VAT refunds is so complex and/or expensive that it is only available to large companies, so simplifying these processes can help MSMEs be more competitive. Complex business procedures and processes, and especially those for exporting goods and importing components, disproportionately affect the competitiveness of MSMEs in VCs. So public policy can play a key role in reducing these barriers to MSME participation. Insisting that foreign investors transfer know-how through supplier training programmes for MSMEs in order to benefit from tax and other investment advantages is another way that public policy can support MSMEs. Note: this does not obligate a foreign investor to use local suppliers, because that could discourage them from investing and is anti-competitive, but it does mean that investors must transfer know-how and become familiar with the capabilities of local companies.

Each country is unique and has different endowments in terms of its economic development, natural resources, human resources and its existing participation in regional and global value chains. A country's policies in support of value-chain participation need to be tailored to match these specificities. This means identifying the country's current positioning within regional and global VCs; its potential for expanding existing participation and moving into new VCs; and the feasibility/practicality of proposed

policies. As part of this effort, it is important to undertake extensive consultations with the private sector, including companies which already participate in VCs, export, or provide export services (such as international transportation and logistical support) as well as chambers of commerce and business associations. The country's National Trade Facilitation Committee (a body required under the WTO Trade Facilitation Agreement) can be an important source of inputs on non-tariff barriers to trade. In addition, some countries have also established competitiveness or innovation councils with significant private sector participation.

### Work to create a "winning country" not a "winning industry"

Given the very poor record of governments in identifying economic sectors that are "winners" it is important to focus a country's policy efforts on creating a positive general environment for VCs. At the same time, governments can give priority to policies that will improve those aspects of the general environment that are most problematic for industries where they believe the country might have a competitive advantage. For example, if a country feels that they could further develop their software industry or services exports (such as call centres), then upgrading the telecommunications network and language skills in the workforce may be a priority. If there is a wish to develop an industry for time-sensitive goods like flowers, "made to measure" wedding dresses, or customized parts for luxury cars, then improving air freight services and improving the quality control skills in the workforce may be a priority. These priorities support the industries in question, and at the same time they provide benefits to a wide range of other VCs and export businesses. In this way, the country always "wins" even if the selected industries do not turn out to be "winners".

# **Entering value chains: Which VC tasks present a possible competitive advantage?**

A starting point for identifying possible competitive advantages is to look at existing domestic industries and exports to identify where there is existing expertise and experience which could be expanded or "sold" to similar VCs. In addition, look at sectors where the country has been identified as having export potential (see Trade Map below) since this can help to identify areas of competitive advantage based on existing expertise and/or natural resource endowments.

There are a wide variety of sources where information on the above can be found, starting with national statistical offices<sup>5</sup> Other sources include the following:

- United Nations' Comtrade database and its website which offers links to a range of tools for data
  visualization <u>https://comtrade.un.org/</u>
- Trade Map of the International Trade Centre (ITC) <u>http://www.trademap.org/Index.aspx</u>
- Trade Competitiveness Map of the International Trade Centre
   <u>http://tradecompetitivenessmap.intracen.org/TP\_TP\_CI.aspx?RP=051&YR=2016</u>
- Observatory of Economic Complexity (OEC)
   <u>https://atlas.media.mit.edu/en/visualize/tree\_map/hs92/export/kgz/all/show/2016/</u>

It is also important to identify a country's current participation in regional and global value chains. One relatively new and important source for such information is the OECD, WTO Trade in Value Added (TiVA) database which covers 68 countries and 34 industrial (manufacturing and services) sectors. In addition,

<sup>&</sup>lt;sup>5</sup> For Kyrgyzstan see: <u>http://stat.kg/en/publications/sbornik-mezhotraslevoj-balans-proizvodstva-i-ispolzovaniya-tovarov-i-uslug-kyrgyzskoj-respubliki-za-2011g-zataraty-vypuska/</u>

the WTO has taken the data for these countries and developed very useful country profiles for value added trade.

If your country is not yet participating in the TiVA initiative, you may want to encourage the relevant statistical authorities to do so. In addition, on the TiVA website there is a link to information on the sources and methods used for TiVA data – at least some of which could be implemented independently by a national statistical agency.

- OECD and WTO Trade in Value Added (TiVA) Database and Related publications <a href="http://www.oecd.org/sti/ind/measuringtradeinvalue-addedanoecd-wtojointinitiative.htm">http://www.oecd.org/sti/ind/measuringtradeinvalue-addedanoecd-wtojointinitiative.htm</a>
- WTO Trade in Value Added Country Profiles
   <u>https://www.wto.org/english/res\_e/statis\_e/miwi\_e/countryprofiles\_e.htm</u>

Breaking economic activities down into their component tasks and then identifying other VCs where similar activities are undertaken can help to identify opportunities for either expanding into new tasks in the same VCs or "crossing over" into new VCs. Annex 1 in this session contains examples of VCs, which have been broken down into component tasks. These are taken from a variety of sources, so the level of the tasks listed varies (i.e. some of them could be broken down into even more discrete components). At the same time, they provide examples of how to look at VCs from the "task perspective".

Activities or "tasks" are important because one key aspect of VCs is their segmentation into discrete tasks. Where similar tasks exist across industries (e.g. plastic case moulding, woodworking, welding, customer warranty service, etc.) specialization in one task in one value chain can sometimes be used to expand into new value chains.

Based upon the above data and consultations with the private sector, countries can identify those value chains or activities within value chains where a country has or could develop competitive advantages and where there are opportunities to expand participation.

Policymakers should then look at the next three questions (discussed below) on the overall business environment, the country's level of connectivity with international markets and workforce skills. These are key areas which can significantly support or diminish competitiveness within regional and international VCs.

## 1. Creating a world-class business environment

#### 1.1 How does our business environment compare?

A country's competitiveness can only be evaluated in relation to the competition (i.e. other countries participating in VCs). Therefore, having identified VC tasks in which their country might have (or could develop) a competitive advantage, policymakers should first compare their country to those who are undertaking the same or similar tasks in VCs, no matter where they are in the world. In addition, and in the context of regional VCs, it is useful to look at countries located in the same region.

The most useful tools for making these comparisons are the various indices and reports published by international organizations. These reports are not always accurate in all the details, but they do present a good overall picture of how well a country compares to others. They are also important because investors and donors look at them. In addition, while the "total" score in any one index tends to be a general indicator of competitiveness, these scores are a weighted compilation of a range of other indicators. Therefore, for most indices it is possible also to see how a country compares with others on each of these lower level indicators. This can provide a wealth of information, because these indicators are based on significant research into what is important for business and for economic development. As a result, on a national level they also provide an excellent basis for further study on how to improve the business environment. Some of the most well-known of these indices are listed below.

World Bank Doing Business Report <u>http://www.doingbusiness.org/</u>

- World Economic Forum Competitiveness Index <a href="https://www.weforum.org/reports/the-global-competitiveness-report-2017-2018">https://www.weforum.org/reports/the-global-competitiveness-report-2017-2018</a>
- Transparency International (an index of perceived corruption levels)
   <u>https://www.transparency.org/country</u>
- The OECD Services Trade Restrictiveness Index (STRI), <u>http://www.oecd.org/tad/services-trade/services-trade-restrictiveness-index.htm</u>
- United Nations Development Programme (UNDP) Human Development Reports (for information on achievements in health, education, pensions, etc.) <u>http://hdr.undp.org/</u>

#### 1.2 Is the business services sector well-developed?

Another essential part of business infrastructure, partially covered by the indices mentioned above, is business services. Many companies participate indirectly in international trade by providing services to exporters and this is a major channel for the participation of MSMEs in VCs. This indirect VC participation covers a wide range of services from office cleaning to information technology. This sector is also interesting because the development of services for companies with a domestic presence may eventually lead to a country being able to export those same services.

Recognition of the importance of these services for exporters is a relatively recent phenomenon. Not long ago the measurement of trade in services was limited to the direct export/import of services as a tradeable. Then, in the last 10 to 15 years, analysis of trade in value added has shown that this dramatically underestimates trade in services because many services are incorporated into physical goods. A few examples include product design, marketing, after-sales service, and activities throughout the production cycle to improve quality and reduce costs.

The following graph (Figure 2) provides an interesting picture of the percentage of services incorporated in the value of exports of selected countries. More detail on trade in services, its impact and how to measure restrictions on trade in services can be found on the OECD website<sup>6</sup>.





<sup>&</sup>lt;sup>6</sup> <u>http://www.oecd.org/tad/services-trade/services-trade-restrictiveness-index.htm</u>

As a country's principal VC exports move up the technological scale (from being primarily resource-based through different levels of manufacturing technology to knowledge-based services) the percentage of value added increases, particularly in the form of services that a country exports as part of its products.

As a result, it is important to develop a country's service sector, both for entering and moving up the global value chain to levels of higher value added, and especially those services catering to businesses in the sectors where the country already has export experience and some competitive advantages.

The use of local service providers is an important potential economic "spillover" from FDI and VCs. As a result, in addition to developing a country's service sector, it is important to look at how to encourage foreign-owned FDI funded companies (often key VC hub focal points) to use local service suppliers. This question is addressed further in the section on strengthening domestic firms' participation.

It is very important to ensure that businesses have access to the services they need to be competitive. Since it impossible to develop cost-effective business services in all areas (regardless of a country's level of development), this also means permitting, and perhaps increasing (at least temporarily) imports of services.

#### 1.3 Identifying areas for the development of business services

The most important source of information on business services that need to be developed (and the quality of existing services) is the private sector. They are the undisputed experts on the quality and use of existing services as well as the private sector's need for additional services. In addition, the following may be useful.

- Example 1 in Annex 1, which shows the business services value chain and is a good beginning framework for identifying business services that are both needed by VC chain participants and have the potential to be later developed into exports themselves.
- If your country is included in their dataset, the OECD site mentioned above includes country profiles with information on trade in services restrictions, which limit the access of a country's enterprises to services they may need to be competitive. If your country is not included this list, national statistical or trade authorities could undertake their own study, using the indicators measured by the OECD and described in detail in the methodology paper (Geloso Grosso, M. et al. (2015). Because the OECD indicators are organized according to the service being evaluated, countries can also use this methodology to evaluate selected service areas to which they give a priority (e.g. telecommunications, road transport, insurance, etc.).
- Another useful tool for seeing the status of trade-related services is the World Bank Logistics Performance Index (LPI) website: <u>https://lpi.worldbank.org/domestic/environment\_institutions</u>. While the LPI report<sup>7</sup> itself does not contain individual country details on services, this information is on the website where you can enter the name of the country and then select "Competence and Quality of Services".

# 2. Improving connectivity

<sup>&</sup>lt;sup>7</sup> https://wb-lpi-media.s3.amazonaws.com/LPI\_Report\_2016.pdf

#### Key connectivity opportunities

The key driving factors behind the "explosion" in VC development during the last three to four decades have been increased global connectivity and large, associated decreases in trade costs. Crucial factors contributing to this connectivity include: reduced tariffs and non-tariff barriers to trade, improved physical infrastructure (for energy, roads and ports in particular); containerized, multi-modal transport as well as related developments (such as highly mechanized loading and unloading of ships); improved telecommunications; advanced information technology; the interface between these last two on the Internet; and increased use of international standards.

Taking advantage of lower trade costs, regional and global VCs have fragmented production into distinct stages with the outputs from each stage being transported between locations, and often between countries. As a result, any increased connectivity costs or problems are compounded at each stage of production. Because the competitiveness of their products depends upon minimizing these costs, VC lead firms and local VC hub focal points are very conscious of the connectivity factors discussed in this section when selecting suppliers and "partner countries".

The connectivity factors discussed below include: electrical and information and communications technology (ICT) infrastructure, transportation and border-crossing facilities, non-tariff barriers to trade (trade procedures, licensing requirements, foreign exchange controls, etc.) and the implementation of international standards.

The importance of different kinds of connectivity and physical infrastructure varies depending on which types of VCs are of most strategic interest. For example, telecommunications are most essential for the export of services; roads and ports are more important for extractive industries; and airports for time-sensitive and high-value goods.

Since developing countries (and developed countries as well) never have the funds needed for financing all needed infrastructure, governments should look for possible partnerships with the private sector and invest strategically, keeping in mind the kinds of VCs where they believe their country has the greatest competitive advantage.

### **Infrastructure (Electricity, ICT, Transportation)**

#### **Electrical Infrastructure**

Reliable and affordable energy is a prerequisite for participation in regional and global value chains. Energy drives cost competitiveness in capital-intensive assembly and processing segments of the chain. (OECD, WTO and World Bank Group, 2014).

Although often overlooked, access to reliable and affordable energy is a key element in the development of trade. "Getting Electricity" is one of the 10 main indicators measured by the World Bank Doing Business Index, for an excellent reason. This is explained very clearly in an OECD 2011 report on the main constraints to trade for developing countries. (See Annex 2 for the OECD chart on the main constraints to trade).

Electricity reliability appears to be a more significant binding constraint [for trade] than road or air infrastructure. The impact of electricity is large and statistically significant at the 99% confidence level: improving the reliability of electricity by 10% increases openness by almost 2 percentage points. The impact is larger on exports (2.4 percentage points) than on imports (1.7 percentage points). This large effect supports the claim of firms in developing countries that electricity is the main problem not only for business in general but also exports. According to the Enterprise Surveys (World Bank, 2010) firms in 29% of partner countries rank electricity problems as their main business problem and in 68% of the partner countries, electricity is listed in the top three constraints. As illustrated ....[below], this problem is the main non-exporters. Reliability is

more of an issue than availability.

...Indeed, producers can address the lack of electricity by using generators. Generators are required for exporters in many countries, e.g. for textile exporters in the Special Economic Zones of Madagascar. Hoekman (2010) reports that, in Nigeria, over 90% of firms with more than 20 employees have generators. The use of generators has a cost: the marginal cost of electricity produced by generators is about two and [a] half times higher than electricity from the grid, and the capital cost of a generator is about 20% of the total cost of machinery and equipment. This shows that lack of electricity can dramatically affect production costs and thus reduce exports competitiveness and, thus, trade performance. But the cost of unreliable electricity can be even greater. Unreliable electricity not only requires the purchase of generators but can damage machineries and equipment used in production due to fluctuation in power intensities. (Hallaert, J., R. Cavazos Cepeda and G. Kang, 2011)



Figure 1.8 Surveys of business constraints in developing countries

Given the large variation in energy endowments between countries, increased and reliable access to electricity can often be supported through regional trade and energy agreements. This was the case in Soviet-era Central Asia when there was a unified regional grid drawing on a range of power sources including oil from Kazakhstan and Uzbekistan; gas from Turkmenistan; hydropower from Kyrgyzstan and Tajikistan; and coal from all but Turkmenistan. As a result, for example, southern Kazakhstan received gas from Uzbekistan. Since then the situation has changed dramatically, beginning with the withdrawal of Turkmenistan from the grid in 2003, followed in 2009 by Uzbekistan, which caused severe power shortages in Kyrgyzstan and Tajikistan. Recently it appears that there may be some movement in the other direction with the signing of an agreement (in May 2017) between Turkmenistan and Uzbekistan, for the export of Turkman electricity to Kazakhstan and to Kyrgyzstan via Uzbekistan's territory. (Pannier, 2017)

#### ICT Infrastructure

As already mentioned, one of the driving factors behind the recent, extraordinary growth in VCs has been the substantial reduction in VC coordination costs created by reliable communications beginning with the fax, and magnified 1000 times by the Internet. Therefore, easily available and good quality Internet access is almost a pre-requisite for participating in VCs and affordable access is a key factor in supporting the participation of micro, small and medium-sized enterprises (MSMEs).

"ICT facilitates the transmission of codified design specifications between actors in product-based chains and is the main medium for participation in cross-border service exports." (OECD, WTO and World Bank Group, 2014)

Source: Hallaert, J., R. Cavazos Cepeda and G. Kang (2011). "Estimating the Constraints to Trade of Developing Countries". Page 22. OECD Trade Policy Papers, No. 116. Paris: OECD Publishing. Available from <a href="http://dx.doi.org/10.1787/5kg9mq8mx9tc-en">http://dx.doi.org/10.1787/5kg9mq8mx9tc-en</a>

For an overview of global and regional trends in ICT access and of where your country stands, as well as potential areas for improvement, the International Telecommunication Union's (ITU) annual publications on "Measuring the Information Society"8 are a good place to start. Volume 2 of this publication contains individual profiles for over 170 countries. For example, on page 98 of the 2017 edition, the country indicators in the profile for Kyrgyzstan show that there is a need for improvement, while the accompanying text outlines the significant efforts that the government is making to improve ICT access.

# Transportation and Border-Crossing Infrastructure

Physical transportation infrastructure (i.e. roads, railways and ports), is crucial for moving goods from production sites to ports, border crossings and final destinations. This means it is also crucial for ensuring that poorer rural and secondary urban areas can benefit from investment and economic development.

At a regional level, it is also important to have quality transportation links, which cross the region, connecting countries and connecting the region to the world. This requires regional cooperation on both physical infrastructure, regulatory questions and information sharing. Countries should investigate the agreements existing in their region and consider becoming signatories. Some resources in this area are:

Figure 1.9			
Key indicators for Kyrgyzstan (2016)		CIS	World
Data in italics are ITU estimates. Source: ITU (as of June 2017).			
Fixed-telephone sub. per 100 inhab.	6.6	20.7	13.6
Mobile-cellular sub. per 100 inhab.	131.4	141.2	101.5
Fixed-broadband sub. per 100 inhab.	4.2	15.8	12.4
Active mobile-broadband sub. per 100 inhab.	46.1	59.7	52.2
3G coverage (% of population)	60.0	77.1	85.0
LTE/WiMAX coverage (% of population)	40.0	45.9	66.5
Mobile-cellular prices (% GNI pc)	4.0	1.7	5.2
Fixed-broadband prices (% GNI pc)	8.4	3.3	13.9
Mobile-broadband prices 500 MB (% GNI pc)	1.0	1.4	3.7
Mobile-broadband prices 1 GB (% GNI pc)	4.4	3.1	6.8
Percentage of households with computer	21.4	67.4	46.6
Percentage of households with Internet access	18.8	68.0	51.5
Percentage of individuals using the Internet	34.5	65.1	45.9
Int. Internet bandwidth per Internet user (kbit/s)	65.4	59.0	74.5

- The list of United Nations transportation conventions and agreements <u>http://www.unece.org/trans/conventn/intro.html</u>
- Regional agreements on physical infrastructure for road, rail and inland waterways under the United Nations Economic Commission for Europe (UNECE) (<u>https://www.unece.org/trans/theme\_infrastructure.html</u>)
- The ongoing project on Euro-Asian Transport Links developed jointly by the UNECE and the United Nations Social and Economic Commission for the Asia and the Pacific (ESCAP) (https://www.unece.org/trans/main/eatl.html).

Non-existent roads mean no trade. Bad-quality roads mean less and more expensive trade, as they can damage both trucks and the goods being transported—resulting in goods of an unsuitable quality

<sup>&</sup>lt;sup>8</sup> ITUs Measuring the Information Society Report 2017. Found at: <u>https://www.itu.int/en/ITU-D/Statistics/Pages/publications/mis2017.aspx</u>.

for sale (demand is low for bruised apples which spoil quickly). Where there are no refrigerated containers or vehicles or storage available, shipments suffer high-levels of spoilage and the transport of some goods (particularly agricultural products and pharmaceuticals) becomes difficult or impossible.

A lack of container handling equipment at seaports, river ports and railway stations can limit the volume of trade and raise costs. A lack of traffic lanes and parking areas can result in traffic jams, increased pollution and decreased trade volume. As an example, if there is expedited processing for trucks who have submitted advanced consignment information, the impact of this "good" procedure can be largely cancelled if there is no separate traffic lane for expedited truck shipments, forcing them to wait in line with all the other trucks for hours or days before they reach the customs officer and receive their expedited handling.

Infrastructure problems at borders can also be aggravated by other factors such as:

- i. *Transportation-related regulations and procedures* (for example, truck inspections, restrictions on drivers, requirements to transfer goods between rail equipment, etc.). Some of these can be eased through the adoption of international standards; agreements for mutual recognition; and regional or international harmonization—others through technology (for example the use of GPS to track vehicles in transit)
- ii. Other organizational factors causing excessive border delays. Some of these can be addressed by increased opening hours, increased use of risk management, joint inspections by customs and other authorities such as phytosanitary inspectors, and even joint-border crossings. Lastly, the importing and exporting countries could perform inspections and clearance simultaneously, instead of the transporter having to stop and go through procedures twice—once on each side of the border.
  - A useful guide for the organization of border crossing points and their physical design is the Handbook of Best Practices at Border Crossings (OSCE, UNECE 2012). Found at: http://www.unece.org/fileadmin/DAM/trans/bcf/publications/OSCE-UNECE\_Handbook.pdf

# Trade procedures, licensing requirements, and other non-tariff barriers to trade

Non-tariff barriers to trade, such as excessive licensing requirements and procedures, can be even more damaging to a company's competitiveness and their ability to participate in value chains than high tariffs. They add costs and are more unpredictable (than tariffs). Unpredictability results in the need for parties downstream in the VC to keep expensive inventories or, if client companies are using just-in-time manufacturing techniques, late deliveries can cause entire assembly lines to shut down—with unacceptable "ripple effects" across the rest of the value chain.

In a global environment, consignees require a high degree of certainty on when and how deliveries will take place. This is much more important than the speed of the delivery. Predictability also carries a premium, which many shippers are willing to pay. In other words, supply chain predictability is a matter not merely of time and cost, but also of shipment quality. (World Bank 2016)

Import-export procedures are closely linked to border transit times and predictability, even if there are additional factors, beyond procedures, that figure into border transit such as physical infrastructure and the internal organization of border services.

The Brookings Institute, in a study on the opportunities provided by GVCs to developing countries, highlights the importance of trade costs, many of which are linked to export-import procedures and processes.

One of the most important impediments for developing countries is trade costs. Non-tariff trade costs in today's world—freight, insurance, and other cross-border related fees—tend to be much larger than any remaining import tariffs as products travel through the various stages of production. Those trade costs have a monetary dimension (for example, transportation, insurance, and other

fees), but also a more intangible dimension: information costs, nonmonetary barriers (regulation, licensing, and so on), and weak trade governance leading to uncertainty.

These various impediments to trade can be expressed as equivalent to an ad valorem tariff of a certain rate. Trade costs vary by country and by sector and are generally much higher than tariffs as impediments to trade. In sectors with complex value chains, such as motor vehicles, computers, and machinery, trade costs are more than four times higher than tariffs. Trade costs tend to be less of an impediment in traditional traded goods [i.e. commodities with short value chains], such as agricultural products, minerals, and wood. (Dollar, D., 2017)

A wide range of tools and resources are available to help countries facilitate trade and minimize non-tariff barriers to trade:

- An excellent "inventory" of these resources, with explanatory information on their use, is the United Nations Trade Facilitation Implementation Guide (<u>http://tfig.unece.org/</u>).
- Session 3 of this module looks more in-depth at the buy-ship-pay model (which covers those areas where non-tariff barriers are found), and session 4 looks at Business Process Analysis which is one of the most important tools for identifying bottlenecks within individual value chains.
- Module 2 looks in depth at how import and export procedures can be made more effective and efficient.

It is also important, in the context of VCs, to look at facilitating imports and especially those which are used as manufacturing inputs. As pointed out in the quotes below, protectionist taxes and non-tariff barriers for imports are no longer an effective strategy for economic development in a world where more and more trade takes place within regional and global value chains.

GVCs reinforce the arguments against the already discredited mercantilist conception of trade, especially a zero-sum obsession with minimizing imports and expanding export opportunities. Imports are essential for exports, especially in complex value chains such as transport and electronics. Tariffs and non-tariff barriers [on imports] in the presence of GVCs are effectively a tax on exports, and the negative effects of trade protection are compounded in GVCs when parts and components cross borders many times. GVCs thus make policymakers recalculate the costs that they impose on their own economies through protectionism. (OECD, World Bank, WTO, 2014)

In general, reducing trade costs (be they created by a lack of infrastructure or an excess of regulatory and procedural costs) should be a priority area when developing strategies for promoting increased participation in VCs.

Countries with very high trade costs will not be able to participate in GVCs, and any exports are thus likely to be traditional goods, often primary products. Developing countries try to address this problem through export processing zones (EPZs) that have superior logistics and customs clearance (as well as duty drawbacks on import tariffs that remain). The problem with this second-best approach is that it limits participation in GVCs to the small number of firms in the EPZs, while other domestic firms, especially small ones that might become parts suppliers, are left in a high-transactions cost world. It is preferable to improve trade facilitation for all the firms in the economy. (Dollar, D., 2017)

The following are some key international resources, which evaluate the performance of countries in the areas of trade facilitation and non-tariff barriers to trade.

- World Bank Logistics Performance Index, <u>https://lpi.worldbank.org/</u>
- World Bank Doing Business Report (Trading Across Borders Indicators) <a href="http://www.doingbusiness.org/">http://www.doingbusiness.org/</a> and <a href="http://www.doingbusiness.org/~/media/WBG/DoingBusiness/Documents/Annual-Reports/English/DB2018-Full-Report.pdf">http://www.doingbusiness.org/</a> and <a href="http://www.doingbusiness.org/~/media/WBG/DoingBusiness/Documents/Annual-Reports/English/DB2018-Full-Report.pdf">http://www.doingbusiness.org/</a> and <a href="http://www.doingbusiness.org/~/media/WBG/DoingBusiness/Documents/Annual-Reports/English/DB2018-Full-Report.pdf">http://www.doingbusiness.org/~/media/WBG/DoingBusiness/Documents/Annual-Reports/English/DB2018-Full-Report.pdf</a>
- OECD trade facilitation indicators, <a href="http://www.oecd.org/trade/facilitation/indicators.htm">http://www.oecd.org/trade/facilitation/indicators.htm</a>

ITC Market Access Map, <u>http://www.macmap.org/</u>



Figure 1.10 Logistics Performance Index and a centrality measure of involvement in GVCs

Further evidence of the importance of reducing transactions costs comes from the World Bank's Logistics Performance Index (LPI),which captures how well infrastructure and bureaucracy work together to move goods through the production process and to consumers. A centrality indicator of each country's role in GVCs plotted against the LPI shows a clear relationship between better logistics performance and deeper involvement in GVCs (see figure[below]). The link is not that tight (R2 = 0.29), indicating that other factors are at work as well. But it is interesting that the lower-right quadrant has no observations at all: No countries with poor logistics performance are central to

GVCs. For countries that want to get more involved in GVCs, trade facilitation and infrastructure are obvious places to start. (Dollar, 2017)

### **International standards**

Another critical capacity required for VC participation is the ability of enterprises to implement international standards. Final products must meet the standards required in the country where they will be sold—so all their components must meet these standards as well. As a result, suppliers who cannot show their ability to meet the required standards in an affordable, consistent and reliable manner are not even considered. Each sector has different standards that are commonly required. An example of common standards in the horticultural sector can be found below.

Figure 1.11 Prominent Standards in the Horticulture Industry (Updated by Fernandez-Stark, K., P. Bamber, and G. Gereffi, 2011)

	Public		Priva		
			te		
	Mandatory	Voluntary	Individual	Collective	
National	<ul> <li>National legislation (pesticide use, labour regulations, sanitary inspections etc)</li> <li>U.S. Department of Agriculture (USDA) standards</li> </ul>	-Hazard Analysis Critical Control Point (HACCP) -USDA National organic program	-Nature's Choice (Tesco) -Field-to-Fork (M&S) -Terre et Saveur (Casino) -Conad Percorso Qualità (Italy) - Albert Heijn BV: AH Excellent (Netherlands)	-British Retail Consortium (UK) -Assured Foods Standards (UK)	
Regional	- EU Regulations		- Filieres Qualite (Carrefour)	-EurepGap <sup>11</sup> -Dutch HACCP -Qualitat Sicherhiet (QS – Belgium, Holland, Austria) -International Food Standard (German, French, Italian)	
International	-World Trade Organization SPS Agreement -UNECE Commercial Quality Standards - CODEX Alimentarius standards	-ISO 9000 -ISO 22000	-SQF 1000/2000/3000 (U.S.)	<ul> <li>GlobalGap</li> <li>Global Food Safety</li> <li>Initiative</li> <li>SA 8000</li> <li>International Federation of</li> <li>Organic Agriculture Movements (IFOAM) Standard</li> </ul>	

Sources: Gereffi & Lee, 2009; Henson & Humphrey, 2009; Jaffee & Masakure, 2005.

Standards requirements can present a considerable barrier to participation in VCs for some sectors and some countries. Meeting these requirements requires a knowledge and technical know-how for which training is not always available. In addition, even suppliers who do meet the quality requirements may lack a timely and cost-effective way to meet the mandatory testing and certification requirements to prove their compliance.

Services that help companies and suppliers to meet standards are important (such as agricultural extension services, vocational training schools and business/manufacturing consultants) as well as services to prove that products meet required standards (testing and certification bodies). Policies to support the creation of a world-class workforce (as discussed in the next section) are also important for supporting the implementation of standards.

Public policy has a role to play in promoting and ensuring the provision of these services, in particular testing and certification services. Because testing and certification for selected imported and exported
products is required in all countries, such services are usually provided either by government agencies or private sector parties who are accredited by a government. Some countries, and laboratories, have mutual recognition agreements allowing them to recognize testing and certificates issued in other countries. Such agreements significantly reduce costs for exporters and should be actively pursued, especially with major trading partners.

The Competence and Quality of Services indicator in the World Bank Logistics Performance Index includes information on quality/standards inspection agencies and health/SPS agencies and is a good place to start. In addition, information on best practices related to standards policy is available on the UNECE website (see below). Nonetheless, the most important source of information on needs in this area is the private sector.

- World Bank Logistics Performance Index, <u>https://lpi.worldbank.org/domestic/environment\_institutions</u> (enter the name of the country for which information is desired and then select "Competence and Quality of Services")
- UNECE Working Party on Regulatory Cooperation and Standardization Policies, <u>http://www.unece.org/trade/wp6/welcome.html</u>

# 3. Creating a World-Class Workforce

Developing worker skills and a world-class workforce is a cross-cutting policy area and is key to VC participation, increasing a country's percentage of value added within VCs, and using VCs to support sustainable development. *"The cost and availability of labour is essential for lower-value labour-intensive functions. As cheaper locations join value chains, those already participating must increase their capabilities or specialize in particular market segments. Upgrading worker skills becomes essential to remaining competitive." (OECD, WTO and World Bank, 2014)* 

The ability to increase the value added that a country's economic actors contribute to a VC is limited by the knowledge and skills of the human resources which are available. Thus, when looking to support existing VCs or to identify new areas for VC participation, policymakers should work with the private sector to identify the required jobs and the skill sets which job holders need, and to plan how to fill in the gaps between the skills in the current workforce and what will be needed in the future. This plan should include the following.<sup>9</sup>

- 1) Definitions of the different value added stages as a company moves "up the ladder" in a VC with the workforce implications at each stage, including required skills (see table 1, Annex 3);
- For each value added stage, profiles for the required jobs with possible sources for obtaining these skills, which pay attention to the different stages of skill development so that training can be properly sequenced (see table 2, Annex 3);
- 3) The identification of programmes and initiatives to support skills development for each value added stage that a country is prepared to support (see country examples for Chile, Kenya and Morocco, in tables 3 to 5, Annex 3).

It is also important to provide incentives to both companies (to provide training) and to workers (to acquire skills) in addition to looking at how appropriate skills can be developed within traditional educational frameworks (i.e. through internships, in-class workshops, etc.). Chile has developed a very advanced programme for labour skills certification, which is described in the box below. While the

<sup>&</sup>lt;sup>9</sup> Annex 3 contains examples for the horticultural industry, but provides a framework that can be applied to other industries.

description is focused on horticulture, similar certification programmes have been developed in Chile for a range of other sectors including, fish farming, forestry, healthcare, information technology, mining, recycling and more. As an incentive to workers and employers, for each category there is a register of all those who have received certificates so that companies can verify the skills of potential employees before hiring them.

#### **Chile National Labour Skills Certification System**

This program was created in 1998 by Fundación Chile. This system aims to provide a framework for the recognition of competencies, regardless of how these were acquired, with the goal to improve industry competitiveness. The program involves both public and private stakeholders from 15 different industries. In these 15 industries, more than 500 occupational standards have been established, and 40,000 workers have been certified. Skills standards have been transferred to vocational training institutions to refine their curricula. At the same time, the workers that have not passed the evaluation are offered training courses to fill the skills gaps and later receive the certification of skills diploma. Certification is carried out by ChileValora, a joint initiative of the government, unions and the private sector.

This system has identified the skill profiles required for jobs performed in the horticulture production, packing, cold storage, and processing stages of the fruit and vegetables value chain. For example, in the production stage a diploma is granted to a person who manages the GAP program in the farm; in the packing plant, a person who has the skills to pack the fruit in a box will receive a certificate, and in the processing stage there is a certification of skills for the workers that pit the fruit or operate the machine to seal cans. To date, more than 9,000 workers in these segments have been certified.

The main advantages of this system are to facilitate the portability of skills, decrease uncertainty in the hiring process, fully accredit the workers' abilities, and most importantly, create a proud sentiment among certified workers to establish a culture of lifelong learning and development.

Updated from Fernandez-Stark, K., P. Bamber, and G. Gereffi (2011).

Sources: Araneda, 2010; Chilevalora, 2017; Kis & Field, 2009.

#### Strengthening the participation of domestic enterprises and MSMEs

Why do countries want to become part of value chains? Economic development and benefits coming from increased employment and technology transfer are among the primary reasons. To maximize these benefits, it is important that domestic enterprises as well as those created through foreign direct investment (FDI) participate both directly and indirectly in VCs including Micro, Small and Medium-Sized Enterprises (MSMEs).

A wide range of studies have shown that MSMEs are essential sources of employment and economic growth around the globe, especially in developing countries. A study by the International Labour Organization (ILO) has shown that SMEs provide two thirds of all formal jobs in developing countries and 80 per cent in low income countries. In addition, and even more importantly, *"SMEs make a key contribution to the net creation of jobs, especially smaller and young firms"* (de Kok, Deijl, Veldhuis-Van Essen, 2013).



Figure 1.12 Share of total employment creation by enterprise size, by region (for countries with a net increase in employment)



HORIZONAL: ECA= Eastern Europe and Central Asia; EAP= East Asia and the Pacific; LAC=Latin America and the Caribbean; AFR=Africa Region; SAR= Southern Asia Region. Due to lack of data, MNA (Middle East and North Africa) is not included;

VERTICAL: % of employment creation

BARS: employment creation by size of enterprise within each income group, the median employment creation shares for different size classes may refer to different countries; hence, the median employment creation share for the three size classes may not add up to 100%.

Notes: the data refers to employment in the formal, non-agricultural private economy; firm size is based on the number of full-time employees; micro enterprises are excluded; based on data from 81 countries; employment creation by size class is calculated according to classification by average size over a twoyear period.

The contribution of VCs in maximizing the contribution of domestic enterprises to employment is further illustrated by figure 8 (on the effect of firm and owner characteristics on the employment growth rates of enterprises of all sizes). This shows that innovation, export orientation, worker knowledge and skills and foreign investment all contribute to increased employment growth. Coincidentally, these are also characteristics that are created or supported by firms' participation in VCs.

Figure 1.13 The	e effect of firm and o	wner characteristics	on the employment gr	owth rates of enterprises

Factor	Description	Effect on employment growth rate of individual enterprise	
Firm size	Size of the firm (employees)	-	
Firm age	Age of the firm (years)	-	
Firm strategies:			
<ul> <li>Innovation</li> </ul>	The introduction of new products or production processes	+	
Export orientation of the firm	Being active and selling one's products in international markets	+	
Capital intensity	The level of capital and/or fixed assets	+	

Other firm characteristics:		
<ul> <li>Location</li> </ul>	Whether the firm is located in a densely populated area (i.e. a big city)	0
Human capital	Knowledge and skills of the workers, acquired through formal training	+
Ownership	Whether the firm has foreign owners	+
Export orientation of the sector	The share of production of a sector that is exported	+
Owner characteristics:		
Owner age	Age of the firm owner (years)	+
<ul> <li>Human capital</li> </ul>	Knowledge and skills of the owner, acquired through schooling, training and/or previous business experience	Mixed

Source: de Kok, Deijl, Veldhuis-Van Essen, 2013.

**Note**: the "+" sign refers to a positive effect on SME employment growth rates, while a "-" implies that the respective factor has an adverse impact on SME employment growth rates. "0" means that there is no statistically significant effect, according to the recent empirical literature. "Mixed" implies that there is mixed evidence on the effects on the respective factor.

As discussed earlier, a poor business environment not only discourages Foreign Direct Investment (FDI), it also weakens domestic enterprises, thus making them less competitive in VCs. As a result, one of the most important ways that policymakers can strengthen domestic enterprises is by improving the overall business environment. The rankings for the individual indicators used by the World Bank for its Doing Business Report (see Resources at the end of this session) and by the World Economic Forum for its Global Competitiveness Report (World Bank, 2017) are excellent starting points for identifying priorities for this improvement.

FDI can open many doors for domestic firms' participation in VCs, especially when the investment is made by a lead firm which is orchestrating an overall VC and encouraging or actively undertaking the establishment of VC hub focal points.

At the same time, the policies for attracting FDI and the advantages given to foreign investors sometimes fail to create links with domestic industry or can even put domestic companies at a disadvantage when they want to be suppliers to VC chain participants. For example, when Special Economic Zones (SEZ) (or other economic advantages) are restricted to companies with foreign investors, this makes it cheaper for a company in the SEZ to purchase from another foreign company also located in the SEZ than to purchase from a domestic company that does not have their advantages (and thus cannot compete). One way to address this issue is to make special efforts to encourage domestic investment through the provision of the same or similar advantages to local companies that export as are given to companies established with foreign direct investment.

Another strategy, to encourage knowledge transfer and the development of links, while not discouraging competition, is to require foreign firms to train local companies (in return for whatever advantages they are receiving). This helps local companies to gain the knowledge and skills they need to compete for supplier contracts and gets the foreign firm acquainted with the capacities of local firms.

Value chains, like all business processes, are competitive. As a result, it is important to make a country's value chain "offer" more unique, thus making it costlier for other value chain participants to change suppliers. This is referred to as increasing the "stickiness" of a country's or company's participation in value chains. Some ways to increase this "stickiness" include providing:

- A larger percentage of a product's overall value added,
- Value added that is harder to replace (requiring more qualified staff, more investment, etc.)
- An active high-quality network of domestic second and third-tier suppliers and service providers
- Other inputs or advantages such as cheaper, physically closer natural resources, better transportation networks, etc.

As a result, countries and companies should be constantly looking to "upgrade" their VC participation by increasing the percentage of value added that they contribute (and thus increasing the percentage of revenue they are able to "capture"). How far and fast this can be done will depend, in part, on a country's "innovation system" which is its overall framework for encouraging knowledge creation and investments in skills (as discussed in the previous section), technology dissemination and entrepreneurship—including in services which form an increasing percentage of the value added in most goods. Innovation is often associated with, and is more prevalent in, higher tech sectors. At the same time, the impact on productivity is higher for innovation in lower tech sectors, so there is still much un-tapped potential for research and development in products, processes and services that do not require enormous R&D investments.

From a practical standpoint, the public and private sectors in a country need to identify their priorities for VC participation (as described at the beginning of this session), and at the same time define a "path" for eventual upgrading. Upgrading can be done in stages with some enterprises perhaps never upgrading while others may upgrade once, and others four or five times.

Three examples of upgrading paths can be found in: the first table in Annex 3 (with possible upgrades for the horticultural sector); Annex 4 (with recommendations for apparel sector upgrading); and below (with the description of types of upgrading in the electronics industry VCs).

Upgrading Type	Description
Functional (Moving into Services)	Final product manufacturers acquire responsibility for more value-adding activities; a switch from manufacturer to service provider often occurs over time: Categories: Assembly→ EMS→ ODM→ Lead Firm Activities: Assembly→ Sourcing/Distribution→ Development/Design→ Marketing
Supply Chain Linkages	Establish backward (or forward) manufacturing linkages within the supply chain; related to vertical integration: Inputs →Components→ Subassemblies→ Final Products This can also be extended all the way back to production equipment.
End Market	Market diversification: serving new buyers or markets often in emerging domestic or regional markets (new geographic destinations or distribution/market channels) Geographic: exporting only to the US and now to Mexico as well Market Sector: consumer electronics to medical
Product	Shift to customized products, use of higher quality inputs, or other additions that increase the value of the product or otherwise provide a competitive edge
Process	Reduce cost, increase productivity and improve flexibility by investing in new or better machinery or logistics technology. Specific steps within a stage (for example, components): Assembly→ Metal Fabrication→ Stamping→ Finishing→ Testing

Figure 1.14 Types of Upgrading in Electronics GVC

Source: Frederick Stacey, Joonkoo Lee (2017)

The participation of Micro, Small and Medium-Sized Enterprises (MSMEs) in value chains requires special attention from governments. It is particularly important to support a well-developed private-sector "eco-system" of business support services for SMEs. Examples of such services include: training, accounting, logistics, information technology support (for web sites, company computers and software, etc.), product and packaging design, customs clearance, etc. Governments can support the provision of such services through subsidies and other incentives. For example, service companies supporting MSMEs tend to be MSMEs themselves, so possible types of subsidies could range from reduced taxes or fees for MSMEs, to vouchers for clients, to subsidized infrastructure (for example for Internet connections), to subsidized training programmes. In addition, government procurement (including at regional and local levels) that encourages/promotes the participation of service-industry MSMEs can support the development of this eco-system.

Another area of importance to all enterprises, and particularly MSMEs, is access to financing. This depends on the policies of financial institutions and the availability of trustworthy credit registries. At the same time, public policy has an important role to play in encouraging the development of innovative financing methods, financial education for MSMEs, export insurance, and legislation in areas such as collateral and bankruptcy. The Association of Chartered Certified Accountants in a substantive 2014 paper on financing for SMEs noted the following:

"Both innovative and traditional approaches to providing finance to SMEs depend on access to effective financial infrastructure – from credit databases to payment systems. The experience of China after the PBoC's [People's Bank of China's] introduction of asset registries for receivables and leases shows very clearly how vital these developments have been. Equally, the record of financial innovators in developing new sources of data to aid in assessing credit risk where traditional public credit databases are not available demonstrates the key role that basic financial infrastructure plays in enabling the flow of funds to SMEs. A keener focus by policymakers on ensuring improved access to financial information and encouraging the creation of basic infrastructure such as asset registries, credit bureaux or credit risk databases, such as the International Chamber of Commerce (ICC) Trade Register, is vital in enabling credit to flow." (Association of Chartered Certified Accountants, 2014).

Exporting usually requires companies to have larger amounts of working capital because of longer times between when the goods are ordered and when they are paid for. Without access to financing, many companies will simply stay out of export markets and VCs.

Another, often overlooked, area that can also have an important impact on the competitiveness of domestic companies, and especially SMEs, is value added tax (VAT) refund policies and procedures. While VAT refund systems often work reasonably well for large companies, MSMEs often find the process excessively time consuming and expensive. As a result, they often do not even request VAT refunds, which makes their products more expensive and less competitive. A 2005 International Monetary Fund (IMF) Working Paper (Harrison and Krelove, 2005) that reviews VAT experience in a range of developed, developing and transition economy countries, recommends some best practices including the immediate refund of VAT to exporters, and preferential treatment for companies with good compliance records. Automated systems and technology can also support better and faster VAT refund processes—as noted in the Price Water House Cooper report *VAT Compliance: The impact on business and how technology can help*, based on their Paying Taxes 2017 study of 142 countries (including from Central Asia). (Price Waterhouse Cooper, 2017)

Strengthening the participation of domestic enterprises and MSMEs in VCs presents a range of challenges. At the same time, working in a strategic manner to achieve this objective can significantly increase the impact and benefits which FDI and VCs can bring to the domestic economy.

# 4. Ensuring that Value Chains support sustainable development

In September 2015, the member States of the United Nations approved an ambitious agenda for 2030 for all countries and for the world with 17 economic, environmental and social goals for sustainable development. These goals aim to create a world of peace where human dignity is respected, extreme poverty and hunger are ended, and our planet is preserved for future generations (United Nations, 2015).

Government policy can help to ensure that Value Chains realize their full potential for contributing to the United Nations Sustainable Development Goals (SDGs). Depending upon government policy and the value chain in question, VCs could make contributions to most, if not all the SDGs. At the same time, the following are goals where there is often greater potential:

- Goal 1. End poverty in all its forms everywhere
- Goal 4. Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all
- Goal 5. Achieve gender equality and empower all women and girls
- Goal 8. Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all
- Goal 9. Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation
- Goal 12. Ensure sustainable consumption and production patterns
- Goal 17. Strengthen the means of implementation and revitalize the Global Partnership for Sustainable Development

At the same time, participation in global and regional value chains is a two-sided coin and it can also create risks for the SDGs. For example, without government intervention (through regulation), the pressure within VCs to reduce costs can result in poor environmental, occupational health, safety and labour standards. On the other hand, with appropriate government regulation (i.e. regulations that focus on outcomes and not on how to achieve an outcome) and enforcement, VCs can lead in innovation and good practice for achieving the SDGs. This is particularly true, for SDGs 9, 12 and 17. In addition, as economies specialize or seek to move up the value chain, some workers may be displaced. Government supported training programmes, as discussed under "Creating a world-class workforce" above, can both reduce related sectoral unemployment and support moving the economy towards higher value added activities (contributing to SDG 8 and often, indirectly, to SDG 1).

While companies participating in a value chain may feel immediate pressure to reduce costs at any cost, this is no longer a successful survival strategy. Social and environmental standards are becoming more important. Originally, this trend began with corporate social responsibility (CSR) campaigns and advocacy groups. Now, environmental compliance requirements and green initiatives are moving to the forefront as a result of both government policy and, increasingly, the purchasing policies of multinationals and large corporates. "Consumers are demanding that lead firms become more responsible and transparent about their practices. The success of ethical clothing brands (for example, Patagonia) is a testament to the power of consumer demand and green credentials." (Cattaneo, Gereffi, Staritz, 2010)

"Surviving suppliers will be companies that choose to compete on their environmental credentials in addition to cost, quality, and other traditional factors. Whether legally enforceable or "voluntary," agreement to make adjustments to have a greener and more transparent firm and supply chain will be mandatory to compete in the future. Countries that develop policies that facilitate the transition to more sustainable practices will be the winners." (Cattaneo, Gereffi, Staritz, 2010)

Government regulations and policies can support the SDGs and help companies to resist immediate pressures by defining minimum environmental, safety and labour standards. At the same time, these

policies and regulations (and implementing measures) should be established in consultation with the private sector and VC participants to ensure that they are effective (focused on results) and efficient, so as not to damage the overall competitiveness of the national economy and its enterprises.

## **Prioritization and Measuring Progress**

Resources everywhere are limited and (as mentioned earlier) each country has its own specific needs. As a result, once policy actions have been identified, they need to be prioritized. This must be done while keeping in mind the steps that need to be taken to ensure that VC participation supports sustainable development (i.e. ensuring positive social, environmental and economic outcomes).

Regardless of the framework used, the evaluation of a country's competitive position (and the analysis of how its value chain participation could be improved) should be an ongoing process. There are new developments every year in technologies, infrastructure, the economy and the political environment—so it is not wise to blindly accept that last year's priorities should also be next year's priorities.

In addition, because value chains are ultimately about business, it is important that these evaluations and the choice of policy options and priorities be undertaken in partnership between the private sector and those government agencies responsible for trade, export promotion and foreign direct investment (FDI) promotion.

Two possible prioritization strategies which provide different perspectives for decision-making (while not being mutually exclusive) are described below:

- 1) Prioritize based on a country's current participation in value chains and focus on those aspects related to either
  - a) Entering VCs (for those countries with limited current VC participation), or
  - b) Expanding and strengthening VC participation (for countries already actively participating in VCs).
- 2) Use the Global Competitiveness Index Framework developed by the World Economic Forum. This identifies three basic types of economies (factors driven, efficiency driven and innovation driven). The "pillars" for each type of economy lay the foundation for moving up to the next "level". Using this framework, a country would identify the principal driver of its current economy and then prioritize the actions that would improve its "pillars", thus helping the country to both improve its current economy and to move forward into more advanced economic activities.



Figure 1.15 The Global Competitiveness Index Framework

Source: World Economic Forum (2017)

#### The importance of Key Performance Indicators (KPI)

Once actions to support Value Chain participation have been identified and priorities established, it is extremely important to identify key performance indicators (KPIs). These will allow a country to identify where it is now, and to measure progress. Improving the ability of domestic enterprises and the national economy to participate in VCs will require investment. Without KPIs it is very difficult, if not impossible, to measure progress and to evaluate the results from investments. They also provide an important motivation for participants by allowing them to measure their accomplishments and the impact of their work. Many KPIs can be taken from international indices such as the World Bank's Doing Business and Logistics.

Performance Indices, and other KPI resources, include the World Economic Forum's Enabling Trade and Global Competitiveness Indices or information regularly published by the International Trade Centre (ITC), the International Telecommunications Union (ITU), OECD, the WTO and others. In addition, countries can undertake their own studies to establish benchmarks and measure progress. Examples of such studies are Business Process Analyses studies (as described in session 4 of this module), Assessments of Trade and Transport Facilitation based on the World Bank's Guidelines<sup>10</sup>, WTO Time Release Studies (measuring the time between arrival and clearance of goods)<sup>11</sup>, etc.

<sup>&</sup>lt;sup>10</sup> https://gfptt.org/sites/default/files/refread/43bcb2bc-67ef-460b-965b-a31a594f3073.pdf

<sup>&</sup>lt;sup>11</sup> <u>http://www.wcoomd.org/en/topics/facilitation/instrument-and-tools/tools/time-release-study.aspx</u>

Each action in a plan to support participation in value chains should have a KPI. The higher the priority of an action, the more important it is to have good KPIs.

Some examples of policy objectives are listed below, and possible matching performance indicators developed by the World Bank can be found in Annex 5. At the same time, countries should not limit themselves to these but should seek to identify KPIs that best fit their national situations and objectives.

Examples of policy objectives:

- Addressing Obstacles at the Border
- Increasing the Connectivity of Domestic Markets
- Improving Drivers of Investment
- Improving Domestic Services Infrastructure and Market Structure
- Promoting Social Upgrading
- Engineering Equitable Distribution of Opportunities and Outcomes

## Conclusion

Participation in Value Chains is a competitive business process. At the same time, well-designed public policy is essential if businesses are to realize their potential. Creating a "winning country" requires a true public-private partnership where everyone has a role to play. For the policymaker, this means putting in place infrastructure, regulations, and incentives that are both business and SDG friendly, so that everyone can contribute—and all can benefit.

Session 3 will look more in depth at the "Buy-Ship-Pay Model" developed by the United Nations Centre for Trade Facilitation and Electronic Business (UN/CEFACT). This model is a tool that countries and economic entities can use to evaluate the efficiency of the processes that form their "links" in the value chain.

- 1) Public policy has a key role to play in increasing and strengthening the participation of a country's economy in regional and global value chains.
- 2) Policymakers need to take action in order to create a "winning country", thus ensuring greater medium and long-term benefits to citizens and reducing the risk that can come from trying to identify and support "winning industries" (which the market may, in the end, decide are "losers").
- 3) There are a wide range of tools and studies published by international organizations such as the International Trade Centre, United Nations Organizations, the World Economic Forum, the World Bank and others which can help countries to evaluate their current business environment and progress made.
- 4) Supporting a country's participation in VCs requires a holistic approach because it requires looking at almost all aspects of a country's business environment, especially those linked to trade. For the same reason that a holistic approach is needed, the evaluation and selection of policies to support VC participation is a complex process. Countries can narrow this process by focusing on areas where there has already been successful VC participation, and areas of strength within their economies.
- 5) Excessive paperwork, complex procedures and high business costs have a disproportionately negative effect on the competitiveness of MSMEs, so improving the overall national business environment in these areas can have a particularly positive impact on MSMEs (whether or not they are part of a VC).
- 6) Foreign Direct Investment plays an important role in developing VC participation. Related policies and incentives should ensure that FDI: encourages links with local business; does not (unintentionally) damage competition or the competitiveness of local companies; transfers knowledge and supports the country's efforts to meet the United Nations SDGs.
- 7) Many of the actions needed to support a "winning country" such as improving connectivity with the rest of the world, developing a vibrant business services "eco-system" for MSMEs, upgrading workforce skills, and ensuring adequate protection for the environment also support United Nations SDGs such as increased employment, decreased poverty, sustainable consumption, production patterns and others.
- 8) Policy decisions are only the first step. To be effective, policies must be implemented. This requires setting priorities and measuring progress. Priorities should be determined in consultation with the private sector—who are the most effected and will have the most informed perspective on the relative impact of different measures.
- 9) Once priorities are set, it is very important to identify Key Performance Indicators (KPIs) for each policy. Good KPIs can help countries ensure the motivation and accountability of participants. In addition, KPIs also allow policymakers to measure the effectiveness of their decisions so that, when progress is not being made, plans can be changed and funds reallocated to more successful initiatives.

## **5. Exercise**

For this exercise, the participants will sit in small groups of 4-6 participants. Each group will be assigned one or more public policy areas (depending upon how many tables there are) and a country (if there are participants from more than one country). Groups will start by defining what the ideal situation would be. Then they will then make lists of:

- a. positive elements in their country's current public policy environment
- b. areas where improvements could be made in public policy

Each group will report on the results of their discussion and the other groups will comment.

#### Information about current country exports and imports

- United Nations' Comtrade database and its website which offers links to a range of tools for data visualization <a href="https://comtrade.un.org/">https://comtrade.un.org/</a>
- Trade Map internet site of the International Trade Centre
   <u>http://www.trademap.org/Index.aspx</u>
- Observatory of Economic Complexity (OEC) https://atlas.media.mit.edu/en/visualize/tree\_map/hs92/export/kgz/all/show/2016/ (This example page: What does Kyrgyzstan export?)
- OECD and WTO Trade in Value Added Database and Related publications
   <u>http://www.oecd.org/sti/ind/measuringtradeinvalue addedanoecd-wtojointinitiative.htm</u>
- WTO Trade in Value Added Country Profiles
   <a href="https://www.wto.org/english/res\_e/statis\_e/miwi\_e/countryprofiles\_e.htm">https://www.wto.org/english/res\_e/statis\_e/miwi\_e/countryprofiles\_e.htm</a>

#### Information on the general business environment, trade facilitation and logistical services

- OECD Trade Facilitation indicators
   <u>http://www.oecd.org/trade/facilitation/indicators.htm</u>
- ITC Market Access Map <u>http://www.macmap.org/</u>
- OECD Science, Technology and Industry Score Board
   <u>http://www.oecd-ilibrary.org/science-and-technology/oecd-science-technology-and-industry-scoreboard\_20725345</u>
- OECD Services Trade Restrictiveness Index (STRI), Trade Policy Note <a href="http://www.oecd.org/tad/policynotes/STRI%20trade%20policy%20note.pdf">http://www.oecd.org/tad/policynotes/STRI%20trade%20policy%20note.pdf</a>
- United Nations Trade Facilitation Implementation Guide <u>http://tfig.unece.org/</u>
- UNDP Human Development Reports (for information on achievements in health, education and pension provision) <a href="http://hdr.undp.org/">http://hdr.undp.org/</a>
- International Telecommunication Union (ITU) Measuring the Information Society Report 2017, volumes 1 and 2 (for information on ICT access) https://www.itu.int/en/ITU-D/Statistics/Pages/publications/mis2017.aspx
- World Bank Paying Taxes Publication <u>http://www.doingbusiness.org/reports/thematic-reports/paying-taxes</u>
- World Bank Logistics Performance Index <u>https://lpi.worldbank.org/</u>
- World Bank Doing Business
  - Website/Database http://www.doingbusiness.org/

o 2018 Report

http://www.doingbusiness.org/~/media/WBG/DoingBusiness/Documents/Annual-Reports/English/DB2018-Full-Report.pdf

#### Guides for setting benchmarks and measuring progress

- World Bank Trade and Transport Facilitation Assessment (implementation toolkit) <u>https://gfptt.org/sites/default/files/refread/43bcb2bc-67ef-460b-965b-a31a594f3073.pdf</u>
- World Customs Organization Time Release Study (Measuring the time between arrival and release of goods) <u>http://www.wcoomd.org/en/topics/facilitation/instrument-and-tools/tools/time-release-study.aspx</u>
- United Nations Trade Facilitation Implementation Guide: Identifying Bottlenecks and Opportunities Itinerary
   <u>http://tfig.unece.org/contents/itinerary-07-start.html</u>

#### General Information and studies on different value chains

Duke University Global Value Chains Center
 <u>https://gvcc.duke.edu/overview-of-work/</u>

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## Annex 1 (Module 1: Session 2) Examples of GVCs in the agri-food, manufacturing and services sectors





#### Example 2. The Fruit and Vegetables Global Value Chain



Source: Fernandez-Stark, Bamber, and Gereffi, 2011



Example 3. The Wheat Global Value Chain

Presentation by Duke University CGGC researcher, Ghada Ahmed, to the MINERVA Annual meeting, Washington DC, September 2016

#### Example 4. The Textile and Apparel Global Value Chain



# Example 5. High Quality Cotton Global Value Chain (Source: Fernandez-Stark, K., P. Bamber, and G. Gereffi, 2016)

Agro Production	Ginning	Spinning	Textile Production (Knitting & Weaving)	Design	Apparel Production (Cut/ Make / Trim)	Marketing & Sales	
High Quality Cotton	Cotton Fiber	Cotton Yarn	Cotton Fabric	Cotton Apparel Patterns	Cotton Apparel & Home Furnishings		
R&D							

#### Example 6. The Automotive Industry Global Value Chain



Source: Cattaneo and others (2013)



Example 7. The Chemicals Global Value Chain

Source: Kannegieser, Matthias (2008)



Example 8. The Tourism Global Value Chain

Source: Inrate (2013).

**Note:** Some businesses supporting tourism such as food service, financial services, and computer reservation systems, are not visually represented. Information on the direct and indirect benefits of tourism in recipient countries can be found in the 2017 Report on the Economic Impact of Tourism from the World Tourism and Travel Council, <u>https://www.wttc.org/-/media/files/reports/economic-impact-research/regions-2017/world2017.pdf</u>.



Example 9. Electronics "3C" Global Value Chain

Source: Frederick Stacey, Joonkoo Lee (2017); 3C refers to consumer electronics, computers and communication devices





Source: Gary Gereffi, Kristen Dubay, Marcy Lowe (2008) and Duke University CGGC

## Annex 2 (Module 1: Session 2) Main business constraints according to World Bank firms surveys

	Main Constraint (Ra	Main Constraint (Ranked first)				Top 3 constraints (Ranked first to third main constraints)		
	Description	Number of Countries	Share in percent of possibilities	Perce nt of s firms 2/	Description	Number of Share percent Countri possibilities 1/	∍in ies of	2/
All ODA recipients	Electricity	28	29.2	39.6	Access to Finance	65	67.7	19.7
96 Countries	Access to Finance	23	24.0	26.8	Electricity	45	46.9	30.4
	Informal sector	14	14.6	24.0	Informal sector	40	41.7	18.4
	Political instability	11	11.5	33.1	Tax rates	35	36.5	17.4
	Tax rates	9	9.4	24.7	Political instability	27	28.1	21.6
	Inadequately educa wo	ated 4	4.2	29.2	Corruption	22	22.9	13.9
	Crime, theft and disorder	4	4.2	28.4	Crime, theft and disorder	19	19.8	17.5
	Licences and perm	its 2	2.1	27.0	Inadequately educated workforce	14	14.6	17.4
	Corruption	1	1.0	14.2	Transportation	6	6.3	11.6
					Access to land	5	5.2	13.1
					Licences and permits	4	4.2	20.9
					Tax Administration	3	3.1	15.7
					Labour regulations	3	3.1	8.9
Landlocked	Access to Finance	9	30.0	26.1	Access to Finance	23	76.7	21.5
30 countries	Electricity	6	20.0	36.0	Tax rates	16	53.3	19.9
	Tax rates	5	16.7	26.3	Informal sector	14	46.7	18.8
	Informal sector	5	16.7	25.1	Electricity	9	30.0	31.6
	Political instability	4	13.3	35.6	Political instability	8	26.7	24.5
	Crime, theft and disorder	1	3.3	20.0	Corruption	6	20.0	14.1
					Inadequately educated workforce	6	20.0	12.7

#### Hallaert, J., R. Cavazos Cepeda and G. Kang (2011), Appendix 8

					Crime, theft and disorder	3	10.0	16.5
					Access to land	2	6.7	13.5
					Licences and permits	1	3.3	14.6
					Transportation	1	3.3	11.4
					Labour regulation	1	3.3	2.6
SVEs	Electricity	11	31.4	35.4	Access to Finance	24	68.6	20.2
35 countries	Access to Finance	10	28.6	26.9	Informal sector	18	51.4	18.0
	Informal sector	6	17.1	22.5	Electricity	17	48.6	27.9
	Political Instability	5	14.3	31.7	Political Instability	11	31.4	22.4
	Tax rates	2	5.7	17.8	Tax rates	10	28.6	16.4
	Licences and permits	1	2.9	25.4	Corruption	10	28.6	13.4
					Crime, theft and disorder	5	14.3	14.8
					Inadequately educated workforce	3	8.6	11.7
					Transportation	2	5.7	13.0
					Access to land	2	5.7	10.7
					Licenses and permits	1	2.9	25.4
					Tax Administration	1	2.9	11.3
					Labour regulation	1	2.9	8.8
Commodity Exporters	Electricity	16	20.8	38.9	Access to Finance	35	12.5	22.7
48 countries	Access to Finance	12	15.6	26.4	Electricity	25	9.0	30.6
	Informal sector	6	7.8	27.5	Tax rates	18	6.5	18.3
	Political instability	4	5.2	26.1	Informal sector	16	5.7	19.4
	Tax rates	4	5.2	26.0	Corruption	14	5.0	15.4
	Inadequately educated wo	2	2.6	27.2	Political instability	10	3.6	18.2
	Crime, theft and disorder	2	2.6	20.8	Crime, theft and disorder	9	3.2	17.1

	Licences and permits	1	1.3	28.7	Inadequately educated workforce	6	2.2	17.2
	Corruption	1	1.3	14.2	Access to land	5	1.8	15.9
					Transportation	5	1.8	11.3
					Licences and permits	1	0.4	28.7
Islands	Electricity	3	30.0	23.6	Electricity	6	60.0	18.2
10 countries	Informal sector	3	30.0	21.2	Informal sector	6	60.0	18.5
	Political instability	1	10.0	8.8	Crime, theft and disorder	5	50.0	12.6
	Inadequately educated wo	1	10.0	25.2	Access to Finance	5	50.0	17.0
	Access to Finance	1	10.0	30.2	Tax rates	3	30.0	15.2
	Tax rates	1	10.0	17.0	Political instability	1	10.0	44.4
					Labour regulation	1	10.0	8.8
					Inadequately educated workforce	1	10.0	25.2
					Transportation	1	10.0	12.6
					Corruption	1	10.0	17.0

Data are the latest available for each country in September 2010.

1. 100% if mentioned by all countries in the top three constraints.

2. Simple average.

Source: Authors' calculation based on the Enterprise Surveys (World Bank, 2010).

## Annex 3 (Module 1: Session 2)

Creating a World-Class Agricultural Workforce: Strategies to Support Upgrading within GVCs, Job Profiles, and National Experience Examples Source: Fernandez-Stark, Bamber, and Gereffi (2011)

# Table 1. Generic Strategies Workforce Development to Support Upgrading in the Fruit andVegetables VC

	Diagram	Workforce Develo	opment Implications
ntry in nain)		Unskilled workers are hired to work on is critical for insertion into the GVCs.	on the farm. Training for these workers
ion (Ei lue Ch	Production Packing & Cold Processing	Skills Preparation	Institutions
Product the Va	Storage	Short training and/ or on-the-job training	Governments, private sector, buyers, training institutions, NGOs, and donor organizations
& Cold Ige Ipgrading)		Typically, women are hired to work in strict procedures to pack the product protect against sanitary problems.	n the packing plants. They must follow s and prevent losses as well as
king stora		Skills Preparation	Institutions
Pacl	Production for Export Cold Storage Processing	Short training, certification, and/ or on-the-job training	Governments, private sector, buyers, training institutions
iit & ctional		This stage shows a movement from a are operating machinery to process t	agriculture to manufacturing. Workers he fruit and vegetables
d Fru (Fund ding)		Skills Preparation	Institutions
rocesse etables Upgra	Production for Export Cold Processing	Short training and/ or on-the-job training	Governments, private sector, buyers, training institutions
Lege V	Storage	2-year degrees	
Product Upgrading		Product upgrading training can occur example is the GAPs to make sure th sanitary and phytosanitary regulation	r in all stages of the value chain. One nat products are following all the is.

	Production for Export Packing & Cold Storage Processing	Skills Preparation	Institutions
	Function for the second	Short training and/ or on-the-job training Formal training to obtain certifications	Governments, private sector, buyers. training institutions, and NGOs
	Production for Export. Parting & Cold Storage Processing	Companies undertake process impro and boost productivity.	vement to upgrade their capabilities
ing	Farms: Fruit & Processing Vegetables: for processing for Sind	Skills Preparation	Institutions
Proce	Very de la constance de la con	Short training and/ or on-the-job training Formal training to obtain certifications	Governments, private sector, buyers training institutions

# Table 2. Job Profiles in the Fruit and Vegetables Value Chain

Position	Job Description	Formal Education Requirements	Training/ Experience	Skill Level
	Production for Export			
Harvest Worker	Manually plant, cultivate, and harvest fresh fruits and vegetables. Duties may include tilling soil and applying fertilizers; transplanting, weeding, thinning, or pruning crops; cleaning, packing, and loading harvested products.	No formal education required	Experience/trai ning	$\bigcirc$
Tractor/ Truck Operator	Responsible for bin placement for pickers and removal of bins ready to be stacked in trucks. Must be able to operate machinery safely, and without damaging the harvested product.	Licence/ certification	Technical training	
Pesticide Handler	Prepare and apply pesticides, herbicides, fungicides, or insecticides. Pesticide handlers must be thoroughly knowledgeable of the chemicals as well as proper application and disposal procedures.	Technical education	Experience/ technical training/ certification	
Irrigation Technician	Install, maintain, alter, repair, and service irrigation system.	Technical education / Bachelor degree	Experience	
Quality Control	Work in the field and are responsible for the quality of the harvested crop. Random samples are taken from each bin and checked for quality, size, colour and	Technical education / Bachelor degree	Experience	

		maturity.			
		Packing and Cold Storage			
Packing Worker	r	Fills trays, wraps fruit, and packs boxes. Looks for defects in the fresh fruit and vegetables and makes sure the packed fresh fruit and vegetables are well presented.	No formal education required	Training	$\bigcirc$
Labellers		Labels packed fresh fruit and vegetables for shipment. Using computer- controlled equipment ensures traceability of produce.	Literacy and numeracy skills	Training	
Transport Driver		Transport fresh fruit and vegetables between fields and pack houses and shippers. Delivers product safely and in good condition. Manage logistical delivery and dispatch paperwork. May need heavy truck licence.	Literacy and numeracy skills	Technical training/ experience	
Managers (Line/Shift)		Ensures quality of the fresh fruit and vegetables complies with industry standards. Shift managers are responsible for workflow. They solve workflow problems by people management, and liaise with the line manager.	Technical education	Management skills/ experience	
Inspector		Works at port of export, monitoring shipments to ensure they meet international standards. This position can require export certifications.	Technical education	Technical training	
Packing Manager		Responsible for the day-to-day packhouse operations, including staff management, budgeting, administration, and planning.	Bachelor's degree	Management skills/ experience	
Quality Assurance Manager		Ensures all handling of fresh fruit and vegetables is carried out according to health and safety protocols of buyers and export markets. Responsible for sampling and testing of fresh fruit and vegetables for diseases.	Bachelor's/ Master's degree	Significant experience	
		Processing			
Line Workers	Tra pao ma pao	ansports raw materials, finished products, and ckaging materials; feeds and unloads processing achines or mobile tank trucks; checks products and ckaging for basic quality defects.	Literacy and numeracy skills	Technical training/experie nce	
Mechanics & Machinery Maintenance	Re and	pairs, installs, and maintains industrial production d processing machinery.	Technical education	Technical training	

Production Supervisor	Instructs and trains operators; ensures good manufacturing practices (GMPs) and standard operating procedures (SOPs) are used. Monitors and verifies performance of equipment and processes, maintains logs on process and product data.		s good standard d. Monitors and I processes, t data.	Bachelor's degree	Specialization degree production/ Management skills / experience
Skill Level	Low	Low-Medium	Medium	Medium- High	High
	No formal education; experience	Literacy and numeracy skills; experience	Technical education/ certification	Technical education / undergraduate degree	University degree and higher

# Table 3. Chile: VC Upgrading and Workforce Development Initiatives

Stage 1: Production for Export 1980s– Present	Stage 2: Packing and Storage 1985– Present	Stage 3: Processed Fruit and Vegetables Mid-1990s—Present		
Production for Export	Packing & Cold Storage	Processing		
Private Sector Workforce Initiatives				
<ul> <li>The private sector created internal programs to train their workers. These skills are in line with</li> </ul>		Training to meet     HACCP standards.		
the needs of the international markets. Worker training is a popular practice, especially with the top companies of the sector.				
• Fruit export companies create training systems to improve quality and safety. Large exporters train small and medium farmers to meet global standards.				
Public Sector Workforce Initiatives				
Government Scholarships for Chileans to study in universities in California (Cepal).				
• CORFO created "Plan Fruticola" in which Universidad de Chile and INIA partnered to prepare skills for people to advance in technical areas.				
• The government created a subsidy for plantations that granted more than US\$ 60 million, including a				
training component.				

- In the last two decades, education levels in the country rose, providing important human capital for the industry, which was in need of better educated workers due to the increased complexity of the tasks.
- The Chilean government offers tax incentives for foreign investors through the High Tech Program. One of these tax incentives is the personnel training (25% of employee's gross annual wage) and a program for hiring experts (up to 50% of the cost of training or hiring).
- CORFO created two programs to enhance the workforce in the sector. One refers to supplier development and the second is the program of technical transfer

#### **Multisector Workforce Initiatives**

- OTIC-AGROCAP started in 1999 training workers in the agro sector and, to date, has trained more than 100,000 workers. In 2009, they trained an additional 17,128 workers from 1,590 companies. They have made and annual investment of US\$ 2 million. OTIC AGROCAP has entered into a number of agreements with public and private institutions to further develop human resources in the industry. These include agreements with the Ministry of Agriculture, FUCOA, PRODEMU, Fundación Chile, ChileAlimentos, the College of Agronomical Engineers, and a number of trade associations formed by regional growers.
- In 2002, the government, private sectors, and other stakeholders created "Buenas Practicas Agricolas" (Good Agricultural Practices), as well as training programs to accompany this standard. During 2006, nearly 12,000 workers received training—4,262 on management topics, 2,827 on quality and hygiene, 2,644 on production techniques, and 2,267 on other topics. Training was covered under SENCE.
- A number of industry actors created the program focused on skills certification. Over 9,000 workers in the sector have been certified. This program has also a training component for the workers that present specific skill gaps (see **Box 1**). The certification includes jobs in the production, packing, and processing stages of the value chain.
- In an effort to promote education as a means of overcoming poverty, ASOEX, together with OTIC AGROCAP and the Study, Consulting and Training Institute (IEAC) has conducted a number of academic equivalency courses for workers in the industry. For this purpose, resources from the ChileCalifica program and the SENCE 2006 Tax Franchise for Academic Equivalency have been used.

Stage 1: Production for Export	Stage 2: Packing and Storage	
Late 1970s	Late 1990s	
Production for Export	Packing & Cold Storage	
Private Sector Workforce Init	liatives	
Formal education is not relevant for unskilled labour.	As companies increase their packaging	
• Training relevant for the limited semi-skilled and skilled labour, such as irrigation and pest-control roles.	health specialists and food technologists to ensure that high level sanitary and health standards are met (Jaffee & Masakure,	
<ul> <li>Private sector firms provide training in new techniques for smallholder suppliers.</li> </ul>	2005).	
• Large exporters hired a longer-term labour force and provide training to ensure high European standards are met.	• Exporters principally responsible for innovation and thus are motivated to provide training to support experimentation and improvement (Stealich et al., 2009).	
• Small growers are trained in the exporter production guidelines for the core export crops, dealing with quality, safety, and pre-planning environmental impact. Agronomists working for the exporters provide training and monitoring of smallholder groups to ensure quality of supplemental supply.	Two Kenyan universities and three higher education institutes launch 3- and 4-year degree and diploma programs in Food Science and Processing Technology to train first-line supervisors for packhouses.	
Public Sector Workforce I	nitiatives	
	<ul> <li>KIRDI involved in the training and development initiatives in the limited processing sector.</li> </ul>	
Multisector Workforce Initiative	S	
<ul> <li>USAID funds project to provide technical assistance and overseas training in production, post-harvest handling, agro-processing technologies, institutional development, and export marketing to Kenyan companies.</li> <li>Through the KHDC program, several USAID-funded training initiatives have focused specifically on smallholders and continued through 2010.</li> <li>KHDC also offers managerial and institutional training through its partners.</li> </ul>	<ul> <li>Funded by the Rockefeller Foundation and the Gatsby Charitable Foundation, Africa Now, Honey Care Africa, Kenya Agricultural Research Institute (KARI), and MOA established a training program to help smallholder fresh fruit producers learn how to dry their fruit using solar panels to ensure they can sell their processed fruit</li> </ul>	
<ul> <li>Farmers trained in nursery techniques to improve the quality of the seeds provided.</li> </ul>	<ul><li>on the market.</li><li>Six universities and colleges in Kenya offer</li></ul>	
<ul> <li>As the sector adopted the GlobalGap-EurepGap standards, there was significant support from multinational organizations—including government agencies from the EU, Germany, Japan, the Netherlands, the United Kingdom and the United States, as well as NGOs, the Kenyan government, and private sector companies— to provide education and know-how to both large and smallholder providers.</li> <li>Particular focus on integrated post-management training that helps to</li> </ul>	degrees and diplomas related to horticulture, while a number of other institutions offer degrees in food sciences and processing technologies. The University of Nairobi also offers a doctoral program in this area.	
reduce pesticide use, increasing quality, and lowering health risks.		

# Table 4. Kenya: VC Upgrading and Workforce Development Initiatives

•	The industry association, FPEAK, developed a Code of Conduct to help both exporters and outgrowers to meet the high standards of European market. In 2010, this code was renamed KenyaGap, with new standards being introduced for the domestic market. FPEAK, along with supermarkets, provided training in the standards to smallholders.		
•	<ul> <li>In May 2010, FPEAK—together with KARI, the Kenya Flower Council, and HCDA—began recruiting trainers for a new Horticulture Practical Training Centre, partly funded by the Government of the Netherlands. This centre is focused on capacit huilding in all expects of the horticulture value obsin in Kenya. Courses will be ferred as amplement of the netherlands.</li> </ul>		
	farms, smallholders and extension staff.	focused on employees of large commercial	

 Table 5. Morocco: VC Upgrading and Workforce Development Initiatives

Stage 1: Production for Export Late 1970s	Stage 2: Packaging and Logistics Mid-1980s			
Production for Export	Packing & Cold Storage			
Private Sector Workforce Initiatives				
	<ul> <li>Meet market entry standards; exporters, packing houses, and farms invest in workforce training.</li> <li>Packing workers are trained principally on the job in order to meet international standards.</li> <li>Some packing firms hire international experts to train workers on food safety and international standards.</li> </ul>			
Public Sector Workforce Initiatives				
<ul> <li>There are two universities with programs in horticulture: (1) HASSAN II Agronomy and Veterinarian Institute at Rabat, and (2) Meknes National School of Agriculture</li> <li>Government provides workforce development training in agriculture through the Office of Vocational Training and Labour Promotion (OFPPT). This focuses on young people and on farm training.</li> </ul>	<ul> <li>The MOA carries out vocational training and facilitates apprenticeships in non-farm agricultural businesses.</li> <li>Workers in higher positions such as supervisors and managers usually attend universities in Rabat, Meknes and Agadir.</li> </ul>			
Multisector Workforce Initiatives				

- In 1991, Chemonics implemented a USAID-funded DAARP program. The program developed a cadre of Moroccan agricultural scientists under the project participant training component. The program also provided English language training; courses averaging one month in duration have covered such skills as basic and more advanced computer training, in vitro breeding methods, forage analysis, and soil testing laboratory techniques (Eriksen et al., 1991).
- The non-profit GIAC AGRO, with 165 member companies, provides funding for workforce development strategy and planning in agriculture
- Chemonics International implemented a USAID-funded project (2005–2009) to improve the skills of Moroccan farmers and agro-processors to become more competitive by helping them improve production, processing, marketing, and logistics and to better integrate various value chains.
- The USAID-funded MEC Project (2009–2013) works in part to strengthen the capacity of existing trainers in export-oriented horticulture value chains. MEC will support ANAPEC and private training institutes to upgrade and expand its training offerings. Working with selected agricultural and export-oriented value chains, MEC will connect master trainers to global worldwide experts and trainers, building a sustainable system that will provide access to new training and adult education resources (USAID, 2009).
- The USAID-funded Advanced Learning and Employability for a Better Future project worked to strengthen the government's vocational training in agriculture and link it to the private sector.
- In 2006 GIZ implemented the Integrated Programme for Quality Improvement in Morocco to build the capacity of Moroccan institutions to strengthen the competitiveness of its fresh and processed fruit and vegetables by simplifying domestic regulation, promoting ISO 9001 certification and HACCP compliance, and improving collaboration between the private and public sectors.
- The EU 2007–2013 projects in Morocco have included strengthening of vocational training and modernization of industry, agriculture, and fisheries. The EU's strategy entails providing financial and technical assistance for education reform and vocational training systems. It also embraces the fight against the illiteracy of young people and adults, in particular women

(European Union, 2007).

## Annex 4 (Module 1: Session 2) Suggestions to Foster Growth/Upgrading the Apparel Sector

Source: IBRD and World Bank (2010)

- Invest in education and training: Education and training opportunities will help to overcome the skills deficits that could hinder economic upgrading. Whereas quotas helped to initiate a textiles and clothing industry in developing countries, maintaining or improving a country's position in the global apparel GVC requires a continuous dedication to workforce development by the government and local firms. In the long run, innovative capacities depend on suitable human capital. Education should include technical skills as well as soft skills in areas such as management, product development, design, and market research.
- Create marketing and networking functions: Firms and governments should work together to create
  organizations to market and network the country/region and align firms with international
  organizations dedicated to standards development, industry advocacy, research and
  development, and best practices. Economic developers and governments should provide
  firms with assistance to attend and participate in international trade shows to increase visibility
  to potential buyers.
- Promote foreign direct investment or joint ventures to develop vertical capabilities: The government of
  countries without domestic textile production should market their countries as a favorable
  location to locate FDI. This is a good strategy in areas that are still dominated by assembly or
  CMT production models, such as Africa, Southeast Asia, and the Caribbean. This will help to
  establish back- ward linkages and to develop skills not in the country. Economic authorities
  need to provide a one-stop shop for any investor or supplier wishing to set up a new firm
  (Knappe, 2008).
- Invest in technology and flexible production systems: Firms and governments with a long-range
  vision of recovery are prepared to invest in technology that enables more efficient and flexible
  business and production models. Investments are needed to upgrade production machinery
  as well as logistics and information technologies that enable suppliers to become more
  integrated into their buyers' networks. Enterprises willing to invest in creative solutions will
  come out ahead in the aftermath of the recession.
- Develop full-package capabilities: Firms must be able to—or have alliances with firms that can provide a final product and additional services related to product development, design, logistics, and quality control. Global brands and retailers are starting to move product development and design divisions closer to regional manufacturing. Suppliers able to offer these services (strategic sup- pliers) can be indispensable to the buyer and are likely to maintain market share through tough economic times.
- Develop standards to meet international and regional standard certifications: Governments should encourage and provide assistance to firms with product and process standards required by international buyers, such as ISO 9000 and 14000, the Global Organic Textile Standard, and the European Union's REACH directive.
- Promote sustainable production practice: Surviving suppliers will be companies that chose to compete on their environmental credentials in addition to cost, quality, and other traditional factors. Whether legally enforceable or "voluntary, agreement to make adjustments to have a greener and more transparent firm and supply chain will be mandatory to compete in the future. Countries that develop policies that facilitate the transition to more sustainable practices will be the winners.
- Diversify buyers, products, and end markets: Firms need to diversify into multiple product lines and end-use markets as well as different geographic markets. Equally important, suppliers should

expand their export focus to emerging countries with growing disposable incomes. These markets are often less demanding than traditional export markets in the United States and the European Union, but they offer more opportunities to upgrade skills to higher value- adding functions such as product design, marketing, and branding. Bilateral and regional trade agreements can help facilitate this process and build future long-term relationships.

## Annex 5 (Module 1: Session2) Examples of Policy Options and Key Performance Indicators

**Source**: Taglioni, Daria; Winkler, Deborah (2016) *Making Global Value Chains Work for Development.* Washington, DC: World Bank. <u>https://openknowledge.worldbank.org/handle/10986/24426</u> (Tables 8.1-8.6, 10.1 and 10.2)

#### Table 1. Addressing Obstacles at the Border: Policy Objectives and Performance Indicators

Policy objectives					
<ul> <li>Address obstacles to trade at the border, including trade facilitation</li> <li>suppress quotas and other quantitative restrictions on imports and exports</li> <li>reduce tariffs, suppress tariff peaks and tariff escalation, or simplify tariff schedules</li> <li>modernize (reform) customs, and harmonize procedures and organization across borders</li> </ul>	<ul> <li>Simplify customs procedures, including sanitary and phy-tosanitary; technical barriers to trade; and other certifications, rules of origin, valuation, and so forth, to conform with agreements or international best practices</li> <li>Implement WTO or regional/bilateral commitments (for ex-ample, common external tariff)</li> </ul>				
Performance indicators					
• Trade restrictiveness indexes: otri, ttri (wti 1.1)	Export restrictions (WTI 1.13)				
<ul> <li>binding coverage and bound rates (wdi)</li> <li>share of tariff lines with peaks/specific rates (wdi, wti 1.6)</li> </ul>	Logistics Performance Index and its indicators—efficiency of customs and other border procedures (LPI, WTI 4.1)				
<ul> <li>mfn applied tariffs: av+ave or av only (wdi; wti 1.2, 1.3)</li> </ul>	Trading across Borders—Doing Business (IFC, WTI 4.2)				
<ul> <li>applied tariffs, including preferences (wdi, wti 1.4)</li> </ul>	<ul> <li>Trade-enabling and global competitiveness indexes—goods market efficiency: burden of customs</li> </ul>				
tariff escalation (wti 1.5)	procedures, prevalence of trade barriers, trade tariffs, efficiency of customs				
mfn 0 tariff lines/import value (wti 1.7)	administration, efficiency of import- export procedures, transparency of				
• tariff bounds/overhang (wti 1.8)	border administration (WEF GCI 6.10, 6.11, 6.13; ETI 1.01–4.02)				
<ul> <li>non-av tariffs (wti 1.9)</li> </ul>	Average time to clear exports through     custome/time to export (import (M/D))				
nontariff measures (wti 1.10)					
customs duties (wti 1.11)	Documents to export/import (WDI)				

Sources: Cattaneo and others 2013, based on OECD 2012a.
**Table 2.** Increasing the Connectivity of Domestic Markets: Policy Objectives and Performance

 Indicators

Policy objectives		
<ul> <li>Increasing the accessibility and connectivity of the domestic market and the security, predictability, reliability, and efficiency of transports/logistics, telecommunications, and ICT:</li> <li>Reform the telecommunications sector, including infrastructure, regulation, competition, and access for all segments; to include fixed lines and mobiles</li> <li>Develop the ICT sector and the Internet (infrastructure, regulation, competition, access)</li> </ul>	<ul> <li>Reform transport, logistics, and ancillary services, including infrastructure, regulation, competition for land (road and rail), maritime/water, and air</li> <li>Harmonize regional infrastructure for trade corridors, and ensure other forms of regulatory cooperation</li> <li>Improve vertical governance in infrastructure, including through fast-tracking and streamlining the regulatory environment, private–public dialogue on regulatory changes needed, and enhancement of budget capital execution</li> </ul>	
Performance indicators		
<ul> <li>Logistics Performance Index and its indicators— quality of transport and IT infrastructure, international transport costs, logistics competence, traceability and timeliness of shipments, and domestic transport costs (WDI, LPI, WTI 4.1)</li> <li>Trading across Borders—Doing Business (IFC, WTI 4.2)</li> <li>Trade enabling and global competitiveness indexes— infrastructure: quality of infrastructure overall, roads, railroads, ports, air transport, available seats, fixed telephone lines/100, mobile phone subscriptions/100, availability and quality of transport infrastructure and services, and availability and use of ICTs (WEF GCI 2.01–2.09, WEF ETI 4.01–7.05, WDI)</li> <li>Technological readiness (WEF GCI 9.01–9.06)</li> <li>Africa Infrastructure Country Diagnostic (AICD)</li> <li>Liner Shipping Connectivity Index (UNCTAD, WTI 4.3)</li> <li>Baltic Exchange Dry Index (WTI 4.3)</li> <li>Lead time to export/import (WDI)</li> <li>Port container traffic (WDI, WTI 4.3)</li> <li>Total/air freight and costs (WTI, 4.3)</li> </ul>	<ul> <li>Number of seats available, airlines, international routes, and airport passenger statistics (IATA, WDI)</li> <li>World telecommunication/ICT indicators database and ICT development index (ITU)</li> <li>Foreign participation/ownership in telecoms (ITU, WTI 1.14)</li> <li>Competition index in telecoms (ITU, WTI 1.14)</li> <li>Number of international gateways, landing stations, licences for fixed and mobile phones, and Internet providers (national data, WB and OECD STRI)</li> <li>Mobile and fixed-line telephone subscribers/population covered by mobile cellular network (WDI, WTI 4.4)</li> <li>Average cost of 3-minute call to the United States (WTI 4.4)</li> <li>Personal computers (WTI 4.4)</li> <li>Internet or broadband users/subscribers (WDI, WTI 4.4)</li> <li>Internet bandwidth and secured servers (ITU, WDI)</li> </ul>	

Sources: Cattaneo and others 2013, based on OECD 2012a

**Table 3.** Improving Cost Competitiveness While Avoiding the Trap of Low-Cost Tasks: Policy

 Objectives and Performance Indicators

#### **Policy objectives**

- Ensure cost competitiveness related to production, labour, transport, and investment.
- Foster productivity gains, skills development, and technological empowerment.

#### Performance indicators

- Unit costs and wage data (ILO ILOSTAT and KILM, OECD)
- Labour productivity (ILO KILM, OECD)
- For skills development and technological empowerment indicators, see table 9.1

Sources: Cattaneo and others 2013, based on OECD 2012a

Note: ILO = International Labour Organization; ILOSTAT = ILO database of labour statistics; KILM = Key Indicators of the Labour Market; OECD = Organization for Economic Cooperation and Development.

## **Table 4.** Improving Drivers of Investment: Policy Objectives and Performance Indicators

Policy objectives		
Intellectual property protection:	Administrative burden:	
<ul> <li>Improve the intellectual property regime and administration to comply with trade agreements, to include patents, authors' rights, geographic indications, and so forth</li> <li>Improve enforcement mechanisms and practices</li> <li>Promote the intellectual property regime and related training or technical assistance</li> </ul>	<ul> <li>Adopt administrative reforms to simplify and reduce administrative procedures (as an example, guillotine reform); increase transparency, predictability, timeliness, and security of administrative decisions (for example, suppression of authorizations)</li> </ul>	
Competition including privatizations and concessions:	Create EPZs, business clusters, technology centres	
<ul> <li>Privatize, offer concessions, and open sectors to competition</li> <li>Elaborate and implement a competition framework, including competition law, competition authority (for example, independence, resources), competition law enforcement (for instance, investigations, sanctions), and related training or technical assistance</li> <li>Government procurement:         <ul> <li>Adjust laws pertaining to public procurement, including transparency, selection criteria, national preference, and so forth</li> <li>Corruption:                 <ul> <li>Reform to fight corruption in the public (for instance, customs) and private sectors</li> <li>Promote and adopt international instruments for corruption reform</li> </ul> </li> </ul> </li> </ul>	<ul> <li>Create EP 2s, business clusters, technology centres, and the like</li> <li>Revise labour regulations for greater labour market efficiency</li> <li>Revise regulations regarding the form of business operations and partnerships (for instance, franchises, multi-sector partnerships)</li> <li>Increase security for operations and staff against crime and violence</li> <li>Promote investment through regional integration:</li> <li>Eliminate barriers to expansion of cross-border investments within the region</li> <li>Converge levels of investment protection within the region and increase transparency to prevent "race to the bottom" on incentives</li> </ul>	
Performance indicators		
<ul> <li>Ease of Doing Business Index (IFC, WTI 3.1, WDI)</li> <li>World Governance Indicators—corruption, rule of law, government effectiveness, regulatory quality, political stability (WTI 3.2)</li> <li>Enabling Trade and Global Competitiveness Indexes</li> <li>Regulatory environment (WEF ETI, 8.01-08)</li> <li>Institutions: property rights, ethics and corruption, undue influence, government inefficiency, security (WEF GCI 1.01-1.16)</li> <li>Labour market efficiency (WEF GCI 7.01-7.09)</li> <li>Goods market efficiency (WEF GCI 6.01-6.16)</li> </ul>	<ul> <li>Time spent in meetings with tax officials/expected gifts/ informal payments to public officials (WDI)</li> <li>Firms using banks to finance investment (WDI)</li> <li>Strength of legal rights index (WDI)</li> <li>Time required to enforce a contract (WDI)</li> <li>Time required to obtain an operating licence/register property/ start a business (WDI)</li> <li>Value of seized counterfeited goods (national statistics)</li> <li>Number of registered trademarks, patents, and the</li> </ul>	
<ul> <li>Business sophistication: state of cluster development (WEF GCI 11.03)</li> </ul>	like (WIPO, WDI) <ul> <li>Number of competition investigations and sanctions</li> </ul>	

<ul> <li>Enterprise ownership (government, private foreign, private domestic) (ADI)</li> </ul>	(national statistics)
Cost of business startup procedure/procedures to register a	<ul> <li>Public procurement penetration ratio—public imports/public demand percentage (national</li> </ul>
business (WDI)	statistics)
	Security costs (ADI)

Sources: Cattaneo and others 2013; also based on OECD 2012a and World Bank 2014.

Note: ADI = Africa Development Indicators; EPZ = export processing zone; ETI = Enabling Trade Index; GCI = Global Competitiveness Index; IFC = International Finance Corporation; WDI = World Development Indicators; WEF = World Economic Forum; WIPO = World Intellectual Property Organization; WTI = World Trade Indicators.

# **Table 5.** Encouraging and Protecting Foreign Investment: Policy Objectives and Performance Indicators

Policy	Policy objectives	
•	Remove barriers to foreign investment	
•	Allow more foreign equity/ownership/partnership	
•	Facilitate the free movement and employment of key personnel across borders	
•	Remove discriminatory policies (including licensing, taxes, subsidies, and so forth)	
•	Increase the protection of foreign assets	
•	Strengthen investor protection, including rights to challenge domestic regulations/decisions	
•	Develop alternative dispute resolution mechanisms for foreign investors (for example, recognition of international arbitration, bolstering of domestic arbitration capacities)	
•	Adjust the laws on nationalization, expropriation, foreign ownership, stability clauses, and the like	
Perform	nance indicators	
•	GATS commitments (WTO), regional commitments, and domestic laws	
•	Services trade restrictiveness indexes (WB, OECD)	
•	Arbitration awards (ICSID and other arbitration bodies' statistics)	
•	Protecting investors (ADI)	

Sources: Cattaneo and others 2013, based on OECD 2012a.

Note: ADI = African Development Indicators; GATS = General Agreement on Trade in Services; ICSID = International Centre for Settlement of Investment Disputes; OECD = Organization for Economic Cooperation and Development; WB = World Bank; WTO = World Trade Organization.

# **Table 6.** Improving Domestic Services Infrastructure and Market Structure: Policy Objectives and Performance Indicators

Policy objectives	Performance indicators
Improving access to finance:	Banking GATS commitment index (USITC, WTI 1.14)
<ul> <li>Reform the financial sector, including microfinance, to increase the affordability and availability of financial services</li> </ul>	Export credit—insured exposures (WTI 4.5)
Ensure export credit and trade finance	<ul> <li>Indicators of financial structure, development, and soundness (IMF)</li> </ul>
	Access to finance (WDI)
	<ul> <li>Enabling trade and global competitiveness indexes— financial market development (WEF GCI 8.01-8.08)</li> </ul>
Improving other domestic infrastructure, including storage and energy:	Procedures and time to build a warehouse (WDI)
Upgrade storage infrastructure	Time required to get electricity (WDI)
<ul> <li>Reform access, regulation, and competition in energy (production and distribution) and other natural resources essential</li> </ul>	Energy statistics/access to electricity (IEA, WDI)
to certain activities (for instance, water in agriculture)	Quality of electricity supply (WEF 2.07)
	<ul> <li>Power outages in firms/value lost in power outages (WDI)</li> </ul>
	Electricity cost (WTI 4.6)
	Pump price for fuel (WTI 4.6)
Improving business support and the organization, connectivity, and	Logistics Performance Index and its indicators—quality     of transport and IT informational transport
<ul> <li>Adopt export and investment promotion and incentives</li> </ul>	costs, logistics competence, tractability and timeliness
<ul> <li>Give analyses and information on markets, opportunities, threats,</li> </ul>	4.1)
and so forth	Global Competitiveness Index—business sophistication:
<ul> <li>Undertake marketing, branding, international presence, and promotion efforts</li> </ul>	extent of marketing, state of cluster development, value chain
<ul> <li>Form sector, professional, or other forms of associations (such as chambers of commerce) and consultations</li> </ul>	<ul> <li>breadth, control of international distribution production process sophistication, delegation of authority (WEF GCI 11.05-11.09)</li> </ul>
<ul> <li>Develop trade corridors and other regional forms of hard and soft networks (for example, regional regulatory agency, regional distribution network)</li> </ul>	<ul> <li>Value of e-commerce, number of ICT firms, number of secured servers (WDI, ITU, national statistics)</li> </ul>
<ul> <li>Develop regional markets and stocks, boards of trade, and price regulation mechanisms</li> </ul>	<ul> <li>Post-harvest losses (African Post-harvest Losses Information Sys</li> </ul>
<ul> <li>Organize value chains and sectors, including storage and distribution channels</li> </ul>	
<ul> <li>Develop e-commerce (including infrastructure, legal framework, protection of data, security of payments)</li> </ul>	

Sources: Cattaneo and others 2013, based on OECD 2012b.

Note: GATS = General Agreement on Trade in Services; GCI = Global Competitiveness Index; ICT = information and communications technology; IEA =

International Energy Agency; IMF = International Monetary Fund; IT = information technology; ITU = International Telecommunication Union; USITC = United States International Trade Commission; WB = World Bank; WDI = World Development Indicators; WEF = World Economic Forum; WTI = World Trade Indicators.

#### Table 7. Promoting Social Upgrading: Policy Objectives and Performance Indicators

Policy objectives
Adopt core international labour standards, and ensure implementation and enforcement, as well as comprehensive and systematic monitoring.
Reduce frictions that increase the costs to workers of moving between jobs, and put in place social assistance programs to accelerate the transition.
Introduce and raise minimum wages to improve living standards, and ensure enforcement and compliance.
• Strengthen public institutions for labour regulation, and develop governance capacities.
Performance indicators
Labour standards:
• ILO NORMLEX
Labour market frictions and social assistance:
Skills mismatch (ILO KILM)
• Employment protection legislation (ILO EPLex; OECD EPL; IFC Doing Business Indicators—Employing Workers)
• OECD public expenditure on labour market programs—Public employment services and administration; training; employment
incentives; sheltered and supported employment and rehabilitation; direct job creation; startup incentives; and so forth
Minimum wages/working poor:
ILO Working Conditions Laws Database
OECD Labour Force Statistics (LFS)
Working poor statistics (ILOSTAT)
Implementation and institutional/governance capacity:
Labour inspection indicators (ILO ILOSTAT)
World Bank CPIA—Quality of public administration rating
World Bank Actionable Governance Indicators (AGI)
Sustainable Governance Indicators (SGI)

Sources: Cattaneo and others 2013, based on OECD 2012a

Note: CPIA = Country Policy and Institutional Assessment; EPL = employment protection legislation; EPLex = ILO employment protection database; IFC = International Finance Corporation; ILO = International Labour Office; ILOSTAT = ILO database of labour statistics; KILM = Key Indicators of the Labour Market; NORMLEX = Information System on International Labour Standards; OECD = Organization for Economic Cooperation and Development.

**Table 8.** Engineering Equitable Distribution of Opportunities and Outcomes: Policy Objectives and

 Performance Indicators

#### **Policy objectives**

- Facilitate access to information about opportunities, roles, rights, and entitlements.
- Remove discriminatory social institutions by putting in place antidiscrimination laws and mandatory or voluntary affirmative
  action programs; establish women's rights (for example, property and inheritance rights) and the rights for freedom of
  association and collective bargaining.
- Reform social insurance systems and combine them with more traditional social assistance programs

#### Performance indicators

Access to information:

- IFC Women, business and the law indicators—Accessing institutions
- OECD Public expenditure on labour market programs—Placement and related services

Antidiscrimination laws and rights:

- ILO NATLEX
- IFC Women, business and the law indicators—Using property, getting a job, building credit, going to court, and so forth
- FAO Gender and land rights database—Property and use rights; inheritance rights; and so forth
- World Bank CPIA—Property rights and rule-based governance ratings; gender equality rating
- ILO NORMLEX—Freedom of association cases
- Trade union density and collective bargaining coverage (ILOSTAT)

Social insurance and assistance:

- ILO NATLEX
- Social security indicators (ILOSTAT)—Social protection coverage; public social protection expenditure; and so on
- OECD Social Expenditure Database—Labour market programs; health; old age; and so forth
- World Bank CPIA—Policies for social inclusion/equity; social protection rating
- WDI—Benefits held by first 20 percent of population and program participation (all social insurance; all social protection; all social safety nets; unemployment benefits; and ALMP)

Sources: Cattaneo and others 2013, based on OECD 2012a

Note: ALMP = active labour market policies; CPIA = Country Policy and Institutional Assessment; FAO = Food and Agriculture Organization; IFC = International Finance Corporation; ILO = International Labour Office; ILOSTAT = ILO database of labour statistics; NATLEX = Database of National Labour, Social Security and Related Human Rights Legislation; NORMLEX = Information System on International Labour Standards; OECD = Organization for Economic Cooperation and Development; WDI = World Development Indicators.

#### SESSION 3 BUY-SHIP-PAY AND BUSINESS PROCESS ANALYSIS – CREATING A MORE IN-DEPTH VIEW OF KEY VALUE CHAIN OPERATIONS

## 1. What is the Buy-Ship-Pay model?

At the regional and global level, value chains (VCs) consist of enterprises which are linked together by trade. The Buy-Ship-Pay model is an important policy tool for supporting value chains because it describes the value chain activities related to trade. Further, it is focused on the supply chain underlying the value chain—in other words it focuses on processes (not on products) and on how to increase value by reducing costs and increasing efficiency.

The Buy-Ship-Pay (BSP) model (illustrated in figure 1) was developed by the United Nations Centre for Trade Facilitation and Electronic Business (UN/CEFACT). It describes the parties and the main traderelated processes in the international supply chains that underlie regional and global value chains. The supply chain ensures that goods are ordered, shipped and paid for while complying with regulatory requirements and supporting trade security.



Figure 1.16 Buy-Ship-Pay Model (Source: UN/CEFACT, 2002)

**Buy-Ship-Pay Model** illustration showing the business processes and transactions/activities that are included. Note that only the SHIP process shows the second level of the model (for example, "Book Transport"). Below the second level, the model includes detailed diagrams of each transaction/activity.

The Buy-Ship-Pay model identifies the key commercial, logistical, regulatory and payment procedures involved in the international supply chain and provides an overview of the information exchanged between the parties at each of its various steps. The model presents a "top-down" view of the supply chain which is linked to the very detailed "bottom-up" models of business requirements and data that are developed as

part of the UN/CEFACT standards development process. The BSP model was developed according to the UN/CEFACT Modelling Methodology (UMM)<sup>12</sup> and is reflected in the (ISCRM)<sup>13</sup>.

In the years since the original development of the Buy-Ship-Pay model UN/CEFACT experts have been developing more detailed models, linked to the BSP model, called Business Requirements Specifications (BRSs). These cover the procedures for individual processes/documents. In 2017 this was expanded to include models of groups of related processes called Reference Data Models (RDMs). The first reference model created was the Supply-Chain Data Reference Model and an additional Reference Model for Transport is expected to be published in 2018. Links to further information and the lists of existing BRSs and RSMs can be found under Resources for this session.

### 2. What is Business Process Analysis (BPA)?

A business process is a sequence oBof steps with a beginning and an end, performed for a given purpose. Business processes are valuable organizational assets. They enable the creation and delivery of business values as defined by organizational goals and are, therefore, the foundation of value-chains.

Business processes are often driven by information. In manufacturing processes this is related to specifications, orders, schedules, etc. In international trade processes, this information is related to cargo, its destination, commercial terms, transportation modes and regulatory documents, among others. As an example, the export of rice from some of the most trade-friendly countries in Asia may involve 15 different parties, 24 documents, and about 700 data elements (ADB and ESCAP, 2013)<sup>14</sup>. Because underlying business processes have a significant impact on businesses' performance, process improvements can enhance competitiveness both at the organizational and at the national level. *Business process analysis is a study of existing business processes within one, or across several, organizations, both in normal operation and in exceptional situations. Its primary goal is to understand attributes of business processes and relationships among them.* 

Both value chain analysis and trade facilitation require an in-depth knowledge of existing business processes and should, therefore, begin with a business process analysis. Trade facilitation can be seen as a "sub-set" of value chain analysis—which looks at all the roles, relationships and information exchanges making up the "trade" part of the value chain.

Given that there is a large variation in business processes across sectors and companies, and a lesser variation among trade processes, the description of business process analysis in this session will focus on the trade (and trade facilitation) elements. For a complete value chain analysis, the same methods for documenting processes, outputs and analysis should be applied to the information exchanges and decision-making in the financing, production/manufacturing, and marketing/sales parts of a value chain.

<sup>&</sup>lt;sup>12</sup> <u>https://www.unece.org/cefact/umm/umm\_index.html</u>.

<sup>&</sup>lt;sup>13</sup> <u>http://tfig.unece.org/contents/ISCRM.htm</u>.

<sup>&</sup>lt;sup>14</sup> Asian Development Bank (ADB) and United Nation Economic and Social Commission for Asia and the Pacific (ESCAP)

The graphic below shows how the results from a BPA form the basis for further work in the trade (or "ship") portion of a Buy-Ship-Pay value chain in a national trade facilitation context. The principal ways to add value in "ship" are through reduced costs, faster processes and more predictable processes. Predictability is particularly important, especially in just-in-time environments where both early and late shipments incur additional costs: warehousing for early shipments; and production halts and/or lost sales for late shipments.





(UNNeXT, UNECEUNESCAP 2012a)

## **3.** Using the Buy-Ship-Pay model together with Business Process Analysis for improving regional and global value chains

One of the principal uses of the Buy-Ship-Pay (BSP) model is to identify where best practices can be applied in supply chains and their activities to make them more efficient and effective, thus facilitating the key function of trade within value chains and supply chains.

The foundation of Business Process Analysis is identifying and documenting all existing processes. These are then analysed to identify where processes can be simplified and improved. In a BPA project, the Buy-Ship-Pay model can serve as a reference model. A reference model is one which has something in common with the desired solution. By their nature, reference models provide a generic representation of the processes in a particular domain and may be extended or modified to relate to specific national or product needs<sup>15</sup>. The BSP Model, the linked Business Requirements Specifications (BRSs) and Reference Data Models (RDMs) described above can be used as reference models for the purposes of Business Process Analysis.

As a reference model, the Buy-Ship-Pay (BSP) model can first be utilized in defining the scope of a Business Process Analysis (i.e. identifying the parties and processes that are involved and those that are not). For example, after identifying a list of processes for a BPA, these can be compared to those in the Buy-Ship-Pay reference model to identify where a process may be missing or where processes may have been combined when it would be better to analyse them separately. If additional processes (that do not exist in the BSP model) have been identified, the project coordinators may want to pay particular attention to these in order to see if they could be simplified or eliminated. The set-up of the project team can also be helped by a reference model as it identifies possible stakeholders and participants.

Once a BPA project has mapped all the steps in existing processes and their activities, project coordinators can use the Buy-Ship-Pay model as a reference during the analysis phase. For example, they can compare activities mapped in their BPA with those found in the BSP model to see if the model for that activity in the BSP is simpler and could be used in place of the existing one. Additional information that can be used in this analysis can be found in the United Nations Economic Commission for Europe (UNECE) Recommendation 18 on Facilitation measures related to international trade procedures (UNECE and UN/CEFACT, 2001), which has organized its information in line with the BSP model and the Summary of UNECE Trade Facilitation Recommendations (UNECE and UN/CEFACT, 2017).

An excerpt from the BRS for Government-to-Government electronic certification for traded agricultural commodities (E-cert) can be found in the annex. Certification is a common process in cross-border trade and has been included to give an idea of the information contained in these models which could be used as a "reference model" when preparing a Business Process Analysis. The foundation for the above work is Business Process Analysis. More information about BPA and the organization of BPA projects will be presented in session 4.

<sup>&</sup>lt;sup>15</sup> United Nations Economic Commission for Europe (UNECE) Trade Facilitation Implementation Guide webpage: *Utilization of a reference model*. Available from <u>http://tfig.unece.org/contents/utilization-reference-model.htm</u>

#### **KEY HIGHLIGHTS**

- The Buy-Ship-Pay Model is an important policy tool for supporting value chains because it describes the value-chain activities related to trade.
- The BSP Model is focused on the supply chain underlying the value chain in other words, it is focused on processes (not on products) and how to increase value by reducing costs and increasing efficiency.
- ✓ The Buy-Ship-Pay model identifies the key commercial, logistical, regulatory and payment procedures involved in the international supply chain and provides an overview of the information exchanged between parties at each step.
- In the years since the original development of the Buy-Ship-Pay model, UN/CEFACT experts have been developing additional, more detailed models (linked to the BSP model) called Business Requirements Specifications (BRSs). These map the procedures for individual processes/documents. In 2017, this was expanded to include models of groups of related processes called Reference Data Models (RDMs).
- Business process analysis is a study of existing business processes within one (or across several) organizations, both in normal operation and in exceptional situations. Its primary goal is to understand attributes of business processes and relationships among them.
- The foundation of Business Process Analysis is identifying and documenting all existing processes. These are then analysed to identify where processes can be simplified and improved.
- A reference model is a model which has something in common with the desired solution. By their nature, reference models provide a generic representation of the processes in a particular domain and may be extended or modified to relate to specific national or product needs.
- ✓ In a BPA project, the Buy-Ship-Pay model can serve as a reference model.
- As a reference model, the Buy-Ship-Pay model can, first, be utilized in defining the scope of a Business Process Analysis (i.e. identifying the parties and processes that are involved and those that are not).
- Second, project coordinators can use the Buy-Ship-Pay model as a reference during the analysis phase. For example, they can compare activities mapped in their Business Process Analysis with those found in the BSP model to see if the model for that activity in the BSP is simpler and could be used in place of the existing one.

#### **Resources** (Module 1: Session 3)

United Nations Trade Facilitation Implementation Guide <a href="http://tfig.unece.org/">http://tfig.unece.org/</a>

UN/CEFACT Modelling Methodology Guides and Information <a href="https://www.unece.org/cefact/umm/umm\_index.html">https://www.unece.org/cefact/umm/umm\_index.html</a>

List of Business Requirements Specifications (for use as reference models) http://www.unece.org/cefact/brs/brs\_index.html

List of Requirements Specifications Mappings (RSMs). These match the BRSs and provide further modelling of the data exchanged. <u>http://www.unece.org/cefact/rsm/rsm\_index.html</u>

Reference Data Model Whitepaper, explaining how an RDM can be used to facilitate building BRSs and data "messages" for the sector covered.

https://www.unece.org/fileadmin/DAM/cefact/cf\_plenary/2017\_Plenary/ECE\_TRADE\_C\_CEFACT\_2017\_11 <u>E White Paper on RDM .pdf</u>

Reference Data Model Technical Description <u>https://www.unece.org/fileadmin/DAM/cefact/GuidanceMaterials/ReferenceDataModelGuideline-</u> <u>v1.0.0.2.pdf</u>

Reference Data Model Publication procedures https://www.unece.org/fileadmin/DAM/cefact/codesfortrade/Procedure\_RDM\_publication\_v1.09.pdf

#### References (Module 1: Session 3)

UNECE and UN/CEFACT (2001). Recommendation No. 18 (3<sup>rd</sup> edition): Facilitation measures related to international trade procedures. ECE/TRADE/27. Available from http://www.unece.org/fileadmin/DAM/cefact/recommendations/rec18/Rec18 pub 2002 ecetr271.pdf

UN/CEFACT (2002) Buy-Ship-Pay Model. Available from <u>http://tfig.unece.org/contents/buy-ship-pay-model.htm</u>.

UNECE Trade Facilitation Implementation Guide website. Available from <a href="http://tfig.unece.org/contents/utilization-reference-model.htm">http://tfig.unece.org/contents/utilization-reference-model.htm</a>.

UNECE and UN/CEFACT (2003). Reference Model of the International Supply Chain with special reference to Trade Facilitation and Trade Security. Available from <u>http://tfig.unece.org/pdf\_files/A9RAD2A.pdf</u>

UNECE and UN/CEFACT (2010). Business Requirements Specification (BRS), E-cert. Available from <a href="http://www.unece.org/fileadmin/DAM/cefact/brs/BRS\_ExportCertificate\_ecert\_v5.1.0.pdf">http://www.unece.org/fileadmin/DAM/cefact/brs/BRS\_ExportCertificate\_ecert\_v5.1.0.pdf</a>

UNECE and UN/CEFACT (2017). Summary of UNECE Trade Facilitation Recommendations Publication ECE/TRADE/442. Available from <a href="http://www.unece.org/fileadmin/DAM/trade/Publications/ECE-TRADE-442E\_CF-SummaryRecs.pdf">http://www.unece.org/fileadmin/DAM/trade/Publications/ECE-TRADE-442E\_CF-SummaryRecs.pdf</a>

UNNeXT, UNECE and ESCAP (2012). Business Process Analysis Guide to Simplify Trade Procedures. Available from <u>http://www.ESCAP.org/resources/business-process-analysis-guide-simplify-trade-procedures</u>

#### Annex 1 (Module 1: Session 3)

# Example of Reference Model Information from Business Requirement Specifications (BRSs)

The following excerpts are from the E-cert BRS (Government-to-Government electronic certification for traded agricultural commodities) (UNECE, UN/CEFACT 2010).

#### Objective

The objective of this document is to standardize the exchange of information for traded agricultural products between governments regulators involved in cross border trade where export/import certification is required to facilitate entry of product. The solution is based on established business processes that operate in accordance with international standards and bilateral agreements made by government regulators.

•••

#### **Certification – Submission and Response**

The trade of agricultural products is highly regulated by government to protect human, animal and plant health. The importing authority (import agency) sets standards for product crossing their border and requires certificates issued by the recognized competent export authority of the exporting country (export agency) to verify compliance to agreed requirements.

•••

Certification information is transmitted for the purpose of clearing product for import by the quarantine and/or food inspection agencies of the importing country. It does not seek to include other government agencies involved in border protection activities (such as Customs), however certification information will be provided to other agencies if they are the first point of clearance or are a pre-requisite for market access.

Though it is acknowledged that certification information has a key role in commercial transactions, its commercial use is outside this proposal. That being said, some authorities may choose to provide an extract of certification information to industry stakeholders as required.

The figure below illustrates the creation of an export certificate by the Export Agency. The Export Agency submits the detail to the Import Agency and in due course the Import Agency responds with the clearance outcome.



#### Information Flow Definition (Activity Diagrams, Descriptions)

The management of Export Certification information flows includes a number of activities carried out by a number of parties and roles. In the normal course of events, the flow is:

Consignor (Exporter)  $\rightarrow$  Export Agency  $\rightarrow$  Import Agency (Border Inspector)  $\rightarrow$  Consignee (Importer)

Some of the information flows described within this section are not necessarily a direct flow of information; they act as a monitor of the current status of an export certificate request.

#### 1. Certificate Request

The activity diagram [... below] illustrates the activities of the consignor and export agency.



The certificate request process involves:

- 1. The export agency receiving export documentation from the consignor.
- 2. The export agency checking the validity of the export documentation against the business rules

and MoU<sup>[16]</sup> (if relevant) for export.

- 3. The consignor raising an export certificate request from the provided export documentation or requesting that the consignor update the export documentation provided or cancel the export request.
- 4. The export agency checking the validity of the export certificate request.
- 5. The export agency approving (issuing) the export certificate or requesting that the consignor update their export certificate request or cancel the export request.
- 6. The export agency and the consignor monitoring the certificate progress (status) throughout the certificate request process.

The specific processes covered are:

Process	Brief Description
Pre-validate Export Documentation	The export regulator (agency) assesses and approves product eligibility for the intended market.
Validation Export Documentation	Based on the export agencies validation decision the submitted documentation may need to be updated (by the consignor), an export certificate request may be raised, or the export documentation may be cancelled.
Raise Export Certificate Request	When the export documentation provided has been fully validated (as correct) by the export agency the consignor can request an export certificate.
Validate Export Certificate Request	The export agency receives the export certificate request, assesses the information for compliance (against importing country requirements including any relevant MoU).
Cancel Export Certificate Request	Where the export certificate request fails to comply with importing country requirements that export request is cancelled.
Issue Export Certificate	The export regulator approves the export certificate request and issues a certificate confirming the import regulator's requirements have been met.
Monitor Export Certificate Status	A message is sent within the system and/or between systems whenever the status of an export certificate request or issued export certificate changes.

<sup>&</sup>lt;sup>16</sup> MoU (Memorandums of Understanding)

#### 2. Certificate Response

The activity diagram [... below] illustrates the activities of the export agency and the import agency.

The certificate response process details the actions taken by the export agency to transmit the issued export certificate to the importing country and for the import agency to review the export certificate, apply internal rules (as required) and advise the clearance outcome of the import request.



The specific processes covered are:

Process	Brief Description
Transmit Export Certificate	Upon issuing the export certificate the printed certificate accompanies the certificate and/or an XML (representation of the issued certificate) is exchanged.
Receive Export Certificate	The import agency receives the export certificate.
Validate Export Certificate	The import agency assesses the information for compliance (against importing country requirements including any relevant MoU).
Apply Clearance Outcome	The border inspector (of the import agency) acknowledges receipt of the export certificate and in due course notifies the outcome of the validation undertaken.

Monitor Certificate Progress	A message is sent within the system and/or between systems whenever the status of an export certificate request or issued export certificate changes.

#### 3. Permissible Certificate Statuses



The permitted export certificate states and transitions available to the consignor (exporter) are:

•••

Status	Brief Description
Raised	The initial application for the Certificate is submitted by the consignor
Cancelled	The Certificate request is cancelled by the consignor.
Amended	The Certificate request is amended by the consignor before the goods are presented for validation by the Export Agency (regulator)
Request Replacement	When an 'Approved' Certificate is to be replaced at the request of the consignor.

The permitted export certificate states and transitions available to the export agency (regulator / consignor inspector) are:



#### •••

Status	Brief Description
Resubmit	Export Agency (consignor inspector) requires amendments to be applied to the request for a Certificate.
Approved	The Certificate is approved by the Export Agency (consignor inspector).
Request Replacement	When an 'Approved' Certificate is to be replaced at the request of the Export Agency (consignor inspector).
Replacement Authorized	Request to replace an approved Certificate has been authorized by the Export Agency (regulator). This triggers the state "To be Replaced".
To be Replaced	Exporter Agency (regulator) agrees to replace the Certificate. Certificate remains in this state until the replacement certificate is approved.
Revoked	The certificate is revoked by the Export Agency (regulator).
Replaced	The Certificate is replaced as a result of the export agency (consignment inspector) approving the replacement certificate.

The permitted export certificate states and transitions available to the import agency (border inspector) are:



Status	Brief Description
Acknowledged	The Certificate is acknowledged as having been received by the Import Agency (border inspection).
Accepted	The Certificate is accepted by the Import Agency (border inspection). This does not mean the acceptance of the actual consignment; rather it is the acceptance of the certificate data.
Detained	The Certificate is detained whilst the Import Agency applies its inspection regime.
Rejected	The goods are refused entry by the Import Agency and the certificate is rejected.
Request Replacement	When an 'Approved' Certificate is to be replaced at the request of the Import Agency.
Withdrawn	When an 'Approved' Certificate is withdrawn by the Export Agency
Replaced	When an 'Approved' Certificate has been replaced at the request of the Import Agency.
Revoked	When a replacement request is denied, the certificate is revoked or returned to the status of approved by the Export Agency.

#### SESSION 4 VALUE CHAIN ANALYSIS TRAINING

## **1. Introduction**

This session is based on the Business Process Analysis (BPA) Methodology proposed in the UNNeXT<sup>17</sup> Business Process Analysis Guide to Simplify Trade Procedures (UNNeXT, UNECE and ESCAP, 2012). This is the BPA methodology used by the United Nations Economic Commission for Europe (UNECE) and the United Nations Economic and Social Commission for Asia and the Pacific (ESCAP) in their work.

There are other methods for Business Process Analysis such as Six Sigma, Lean Six Sigma, Business Process Modelling Notation (BPMN), Decision Model and Notation (DMN), Multi-Variable Testing (MVT) and Kaizen, among others. Most of these were developed to improve quality control in manufacturing, to implement just-in-time manufacturing or for use in software development. Some of them, such as Six Sigma and Kaizen, are complete management philosophies that require the permanent assignment of staff and organizational structures for their implementation. Some of them, such as BPMN, are complicated and require extensive training for both implementers and participants. None of these exactly fit the needs of the United Nations Regional Commissions for periodic analytical studies carried out on small budgets and involving large numbers of government officials from various ministries as well as business decision makers, the vast majority of which have no IT or business analysis backgrounds. As a result, UNECE and ESCAP, through their joint UNNeXT programme, developed the Business Process Analysis methodology found in the Guide cited above, which is the basis for this session. For those who are interested in exploring the other methodologies referred to above, the Resources section at the end of this session contains references for further information.

## 2. Business Process Modelling - A fundamental tool for BPA

One of the principal tools used for Business Process Analysis (BPA) is business process modelling. This is a technique for documenting business processes where each element of the business process is represented by a graphic notation. The resulting graphic representation of a business process is known as a business process model. Each business process model illustrates:

- Activities that come in a specific order and decision points
- Actors who perform those activities
- Inputs and outputs of each activity
- Criteria for entering and exiting the business process
- How actors relate to one another
- How information flows throughout the business process
- Associated rules and regulations; and
- Quantitative indicators such as number of steps, as well as the time and cost for each step and for

<sup>&</sup>lt;sup>17</sup>United Nations Network of Experts for Paperless Trade and Transport in Asia and the Pacific (UNNeXT)

#### the complete business process.

The documentation of existing business processes in simple diagrams and brief descriptions helps to create a mutual understanding among relevant stakeholders. It also helps to increase stakeholders' knowledge about overall business processes because each stakeholder is most familiar with the part of the subprocess in which they participate and has more limited knowledge of other subprocesses. Sometimes stakeholders may even have mistaken beliefs about how other subprocesses work, or may not be familiar with them at all.

Additionally, the outputs from a BPA can serve as the basis for identifying areas for the optimization of business processes and the creation of additional value. Well documented business process models help business and public policy decision makers to redesign processes, make necessary modifications in an informed and targeted manner and justify the changes made. Further, a BPA can provide insights into how new policies will impact operational efficiency, transparency, and effectiveness.

For example, the Time procedures chart (see Annex 4) developed at the end of a BPA project can help decision makers to estimate the impact of their planned changes and to identify those procedures (or sets of procedures) where changes would have the greatest impact on time and cost.

In this session, the standard graphic notations which are used for business process modelling come from a simplified subset of the Unified Modelling Language (UML) called the UN/CEFACT Modelling Methodology (UMM). The Unified Modelling Language is an ISO standard (ISO/IEC 19501). It is internationally accepted and widely used by business practitioners, information technologists and software developers. One advantage of using a subset of UML is the relative ease in finding software tools with UML templates, some of which offer free-of-charge plans. Examples of available software include: Lucidchart, Microsoft Visio, Smartdraw, etc.

The quality of a business process model depends not only on its ability to accurately represent various elements of a business process, but also on the appropriate use of graphic notation. If one goal of a business process analysis project is to automate part (or all) of a process, the use of common standard graphical notations when modelling is vital. This is because the use of common standard graphical notations will allow business domain experts to communicate procedural and documentary requirements to the technical experts who must develop and implement the automated systems.

It is also important when implementing a BPA project that all those involved use consistent modelling techniques. Different outputs/models of subprocesses are combined at the end of a BPA to provide an overall view and identify areas for work and priorities. If the graphs are not comparable in their level of analysis or quality, then this is much more difficult to do. In addition, consistent outputs create results that can be easily understood, analysed, compared, and validated.

#### 2.1 Organization of a Business Process Analysis

Regardless of the BPA methodology used, the organization of the process will be similar, although the details may vary (e.g. the exact content of outputs). The description below is based on the approach used by the United Nations Centre for Trade Facilitation and Electronic Business (UN/CEFACT). This can, and should, be modified according to the circumstances and objectives of the BPA in question. For example, if a BPA is the first step in automating a process, it may be useful to combine the BPA with the collection of additional, detailed information on the data being exchanged between parties (and related definitions) for the purposes of harmonization. There are four outputs from the Business Process Analysis described here:

 A high-level use-case diagram (see example in Annex 1) of each major business process. This defines all the separate activities (called "use cases") which need to be carried out as part of the process, and identifies all the participants.

- 2) Activity diagrams for each activity (use case) identified in the use-case diagram (see example in Annex 2). In other words, if there are eight separate activities in the use-case diagram for "exporting cotton" then there will be eight separate activity diagrams. These diagrams map out the sequence of interactions and information exchanges between the participants in each activity.
- 3) One business-process description for each activity diagram (see example in Annex 3). These provide more detailed descriptions of the participants, documents/information, regulatory requirements and the entry and the exit criteria for each activity.
- 4) A Time Procedures Chart (see example in Annex 4) covering the entire business process (use-case diagram). This is based on the information in the business-process descriptions and can be used to identify those activities that, if improved, could contribute the most to shortening the entire process. This, in turn, can be helpful in identifying priorities.

As mentioned above, if this BPA is the first step in automating a process, then it can be useful to combine the BPA with the collection of details on the information being exchanged—for the purpose of its harmonization. Forms/outputs which can be used to collect information for this detailed data analysis can be found in Annex 5. The data collected in these forms is based on the information requirements identified in the forms and data entry/collection described in the business process descriptions of the BPA.

It is important that the detailed information for the data analysis be collected from the parties who are receiving the data and not those who are providing it. To illustrate why this is important, let us take an importer with an older IT system that only allows 12 characters for a person's family name and does not allow any numbers or special characters like dashes. If you ask the importer's staff, "What is the format for this required data? they are likely to respond: "12 alpha characters with no numbers or special characters allowed". At the same time, the organization which requires and receives the data may accept up to 24 characters with numbers and special characters included. It is this wider set of options that should be recorded as part of the data simplification and harmonization process.

More information about the data harmonization process can be found in UNECE Recommendation 34 on data harmonization (UNECE and UN/CEFACT, 2011) and the UNNeXT Data Harmonization and Modelling Guide (UNNeXT, UNECE and ESCAP, 2012b).

The BPA process has four phases which are described below.



Figure 1.18 Activities involved in Phase 1(1.1 in this graph) and Phase 2 (1.2-1.7 in this graph)

(Source: UNNeXT, UNECE, ESCAP, 2012a)

#### PHASE 1 – Setting the Parameters

Actors: The project manager in consultation with their superiors and/or project sponsors.

Actions: Decide on products, transport modes and destinations as well as any overarching conditions such as the INCOTERMS used. Each product, destination and transport mode should be modelled separately, even if some activities (use cases) are common. It may be useful to model clearance for the same product at multiple border points to identify any differences in handling at either the exporting or importing side of the border.

#### PHASE 2 - Identifying the activities to be analysed

Actors: Line staff or consultants for the preparation of the draft use case diagrams (hereafter referred to as the "implementing professionals"), field staff (who conduct interviews) and the project manager (for review and approval).

#### Actions:

A) Prepare initial Use case diagram (see Annex 1) identifying all the actors, the principal processes and (to the extent possible) the sequence of interactions. This Use case diagram will be periodically modified during the BPA to reflect new information. Its preparation will require some initial interviews with industry and/or company representatives.

For example, when using BPA in trade facilitation, the use case diagrams should show "...a chain of logically connected activities to move goods and related information across borders from buyer to seller and to provide related services" (UNNeXT, UNECE and ESCAP 2012).

Reference models (see session 3) can be a useful support when developing the Use case diagram—to help ensure that all processes and stakeholders have been identified.

The Use case diagram is important because it identifies each activity that will be analysed in detail in the activity diagrams. If a use case diagram misses an activity, then a crucial step could be missed. Also, if a use case takes an approach that is too high level and not sufficiently granular (combining activities), the resulting activity diagrams may be too complex or difficult to analyse. This is why it is necessary to review and revise the use diagrams throughout the process.

- B) Review the use case diagrams with the implementing professionals and confirm with the project managers and relevant superiors/sponsors. A list of potential interviewees should be developed. There should be at least one interviewee for each actor identified in the Use case diagram.
- C) Simultaneous to B), implementing professionals develop a list of guiding questions for each interviewee, in consultation with the field staff who will conduct the interviews.

#### PHASE 3 – Developing Activity Diagrams and Process Descriptions

Actors: Project manager, implementing professionals, field staff, business experts and any sponsors.

The Actions are divided into three parts, as described below.

#### Figure 1.19 Activities in Phase 3A – Planning Preparation of Activity Diagrams



(Source: UNNeXT, UNECE, ESCAP 2012a)

A) Organize the work, identifying stakeholders to be interviewed, questions to be asked, responsibilities and timing.



Figure 1.20 Activities in Phase 3B – Desk Research

(UNNeXT, UNECE, ESCAP 2012a)

B) Undertake initial desk research on the activities to be mapped.





- C) Develop a set of Activity diagrams (see Annex 2) with their accompanying Process Descriptions (see Annex 3). In addition to the primary (or "ideal") path for a process, be sure to include variations. For example, what happens if a required piece of information is not provided (or is late) or if a special condition is met (or is not met)? At the same time, focus on what needs to be accomplished and how activities from different stakeholders are integrated together. In BPA a delicate balance exists between having sufficient detail to identify problems and so much detail that it hides the real, strategic layer of activities, stakeholders and their interactions.
- D) Give each Activity diagram a unique ID which will be linked to the process description as well as data required for that activity (see data harmonization outputs in Annex 5). The Process Descriptions (Annex 3) should either include, or be accompanied by:
  - a. The business or the regulatory objective for each process
  - b. Criteria for all decisions made during the process
  - c. Copies of all documents involved
  - d. Descriptions of any electronic data submissions (see data harmonization output, Annex 5)
  - e. Copies of relevant regulations
- E) Go back to interviewees to clarify information where needed.
- F) Submit activity diagrams and process descriptions to interviewees or their organizations for verification.
- G) Based on the Activity diagrams and Process descriptions, develop time procedure and cost charts for each activity—and then combined procedure and cost charts for the entire BPA. An example can be found in Annex 4

#### PHASE 4 – Analysing Process Data to Support Data Harmonization (if applicable)

For BPA projects that are also supporting data harmonization, the following steps support the data harmonization process as reflected in the chart at the beginning of Annex 5.

- A) Request the collecting agencies fill in the tables in Annex 5 for the data required for each step in the activity diagrams, including data that is submitted electronically as well as that submitted on paper forms. This step can be done in parallel with activities C, D and E in Phase 3. The results should be "data dictionaries" for each document and each online data submission documented in the activity diagrams.
- Based on these "document data dictionaries", an IT data specialist work should work with a committee of one to two representatives from each ministry or office which requires the submission of data documented in the BPA. The objective should be to simplify and harmonize their data requirements and, if possible, find ways to share data so that the submitting party only needs to submit data once rather than multiple times. The result should be harmonized national data sets for the processes concerned. Depending upon the amount of consensus achieved, it may be necessary to identify a "core harmonized data set" to which individual government entities could add their additional, unique requirements.

Before starting step B (above) it is highly recommended to review and take into account the more detailed information on the steps and processes for harmonizing data which can be found in the UNNeXT Data Harmonization and Modelling Guide (UNECE and ESCAP, 2012b) and UNECE and UN/CEFACT Recommendation 34 on Data Simplification and Standardization for International Trade (UNECE and UN/CEFACT, 2011).

#### 2.2 Analysing Results and Developing Recommendations

Once a BPA is finished, the project team should begin the analysis, consulting regularly with representatives from all stakeholder groups (including private business).

The analysis process should start with a stakeholders' meeting to:

- a. Further confirm the "as is" process
- b. Receive input as to the most costly, time-consuming, and annoying bottlenecks
- c. Receive input as to practical solutions

There are different approaches to this analysis stage of BPA. Some suggestions are described below, keeping in mind that these analyses should take into full account the input received from stakeholders in the previous step.

- i. Use the Time and Cost Procedures Charts for each activity to identify where improvements would have the most impact on the overall process.
- ii. Look to identify redundant processes
- iii. Using the Time Procedures Chart look at the possibility for re-sequencing or combining activities to speed up the overall process and reduce costs.
- iv. Identify and eliminate duplicate or unnecessary document and data requirements. (The data analysis work described in Annex 5 can be helpful.)
- v. See if processes could be improved to reduce the probability of exceptions occurring.
- vi. Compare the BPA to reference models (such as the Buy-Ship-Pay model or UN/CEFACT Business Requirements Specifications described in Session 3) to identify possible areas for improvement.
- vii. Look at alternative sources for data information for capturing information as close as possible to its source (for example, if an invoice is already required, then product description and price could come from the invoice rather than having to be submitted again in a separate document). The possibilities for eventually sharing information across government agencies (rather than requesting the same data multiple times from businesses) should also be examined.
- viii. Harmonize data requirements with international standards
- ix. Incorporate international best practices as found in UNECE and UN/CEFACT Recommendation 18 (as well as their collection of Trade Facilitation Recommendations), the World Customs Organization (WCO) Revised Kyoto Convention, the World Trade Organization (WTO) Trade Facilitation Agreement, the WCO Customs Guidelines on Integrated Supply Chain Management and others. (See Resources and References at the end of this session for relevant links). Where procedures differ significantly from these best practices, the reasons for these differences should be documented.
- x. Look at where appropriate risk management schemes could improve the effectiveness of inspections while decreasing their overall number
- xi. Use the checklist on the following page. Although it is tailored specifically to BPAs which include cross-border trade procedures, much of it is useful across all BPAs.

Recommendations should be developed first as alternative "to be" activity diagrams with matching process descriptions. More than one alternative "to be" scenario can be developed.

During the above process, stakeholders should be regularly consulted to receive their inputs as to the effectiveness and consequences of proposed solutions.

#### Example of a business process analysis checklist

#### **Focus: International Trade Procedures**

(UNNeXT, UNECE and ESCAP, 2012a)

#### **Procedural requirements**

- □ Procedures are kept to a minimum.
- □ Procedures are standardized.
- Procedures comply with international standards. For example, customs procedures are in line with the World Customs Organization (WCO) Revised Kyoto Convention, WCO Customs Guidelines on Integrated Supply Chain Management, and Customs SAFE Framework of Standards. In cases of partial compliance, identify practices that do not comply.
- □ Where goods are required to be physically inspected by multiple government authorities, those government authorities coordinate and carry out the physical inspection at the same time.
- □ Sufficient number of modern non-intrusive and radiation-detection equipment have been installed and are used in the inspection of high-risk shipments.
- □ Authorized Economic Operators who have a good record of compliance and demonstrate commitment to supply chain security benefit from simplified and rapid procedures. The same principle is applied by other controlling government agencies in the context beyond customs.

#### Data requirements

- □ Data requirements are kept to a minimum. (A set of data requirements should be no larger than by the data set for WCO Data Model, given that the WCO Data Model defines a maximum set of data for the accomplishment of export and import formalities.)
- Data requirements are harmonized and standardized.

#### **Documentary requirements**

- Documentary requirements are kept to a minimum.
- Documentary requirements are in line with United Nations Recommendation No. 1: United Nations Layout Key for Trade Documents. (Identify any documentary requirements that are not in line with this document.)
- □ The use of plain paper, documents produced or appearing to be produced by reprographic, automated or computerized systems are acceptable. (Identify where the use of plain paper, documents produced or appearing to be produced by reprographic, automated or computerized systems are not acceptable.)
- □ Hand-written signatures and their equivalents by authorities are avoided on paper documents (Identify where hand-written signatures or their equivalents are still required).
- □ No documents are required to be legalized, verified, or authenticated by representatives abroad.
- □ The requirement for authentication can be fulfilled by means of technological solutions and need not be accompanied by a signed and/or authenticated paper document.
- □ International standards for electronic information exchange are used as a basis for developing

information systems used to facilitate the completion of trade related procedural and documentary requirements.

#### Transparency and predictability

- □ Official publications of existing laws, regulations, and other information regarding procedures and data requirements including rate of duties and taxes, general rule for classification of products for customs purposes, trade-related requirements and restrictions, fees and charges related imposed in connection with the administration of trade, penalty provisions against breaches of trade formalities, and trade-related bilateral or multilateral agreements are systematically available and readily accessible to all parties concerned (Identify any laws, regulations, and other information regarding procedures and data requirements which are not readily accessible to all parties concerned).
- □ The time required, the procedures used, and the fees related to official regulations are predictable

#### **2.3 Implementing Process Improvements**

As in all change management, it is important to remember the concerns of implementing stakeholders and the difficulty in implementing change, even if the benefits may seem self-evident. The following are some "classic" recommendations and useful suggestions for change management:

- i. Get buy in from implementing officials and the private sector
- ii. Be sure that there are adequate resources for implementation
- iii. Find a champion (person or department) to lead the implementation of change
- iv. Clearly identify roles and responsibilities
- v. Start small with change projects that are relatively easy to implement and have visible results—this will give confidence to implementers and stakeholders when it comes to more difficult changes with longer payback periods
- vi. Invest in training so that new processes are implemented properly
- vii. Set Key Performance Indicators and time frames for their measurement. The results of the BPA will help to establish the benchmark against which progress can be measured.
- viii. Learn from the results and do not hesitate to go back, review and change plans if something is not working out as foreseen.

#### **KEY HIGHLIGHTS**

- This session is based on the Business Process Analysis Methodology found in the UNNeXT Business Process Analysis Guide to Simplify Trade Procedures (UNNeXT, UNECE and ESCAP, 2012). More detailed information on implementing a BPA can be found in this publication.
- 2. One of the principal tools used for Business Process Analysis (BPA) is business process modelling.
- 3. The documentation of existing business processes in simple diagrams and brief descriptions helps to create a mutual understanding among relevant stakeholders. Well documented business process models help business and public policy decision makers to redesign processes, make necessary modifications in an informed and targeted manner, and justify the changes made. A BPA can also provide insights into how certain policies will impact operational efficiency, transparency, and effectiveness.
- 4. It is important that all of those involved in a BPA project make a consistent use of modelling techniques so that the models of different subprocesses can be efficiently combined at the end of a BPA. Consistent outputs create results that can be more easily understood, analysed, compared, and validated.
- 5. There are four outputs from the Business Process Analysis described in this session:
  - i. A high-level use-case diagram of each major business process.
  - ii. Activity diagrams for each activity (use case)
  - iii. One business-process description for each activity diagram
  - iv. A time procedures chart
- 6. If a BPA is the first step in automating a process, then it can be useful to combine the BPA with the collection of details on the information being exchanged for the purpose of its harmonization. More information about the data harmonization process can be found in UNECE Recommendation 34 on data harmonization (UNECE, 2011) and the UNNeXT Data Harmonization and Modelling Guide (UNNeXT, UNECE and ESCAP 2012b).
- 7. There are four phases to the BPA process
  - i. Setting the parameters
  - ii. Identifying the activities to be analysed
  - iii. Developing activity diagrams and process descriptions
  - iv. Analysing process data to support data harmonization (if applicable)
- 8. Once a BPA is finished, the project team should begin the analysis, consulting regularly with representatives from all stakeholder groups, including private business.
- 9. There are a wide range of tools to use in analysing a BPA, including the Time and Cost Procedures charts which are among the final BPA outputs and can help to identify where improvements would have the most impact on the overall process. Other important tools to use are reference models and international agreements, standards and best practices.
- 10. When implementing process improvements it is important to remember the concerns of implementing stakeholders and the difficulty in implementing change, even if the benefits may seem self-evident. In this context, it is useful to look at recent business theories and research on change management.

#### **Resources** (Module 1: Session 4)

(All documents referenced in this session are listed under References.)

Examples of BPAs undertaken by ESCAP using the UNNeXT Guide <a href="https://unnext.ESCAP.org/tpad/trade-process-studies">https://unnext.ESCAP.org/tpad/trade-process-studies</a>

All UNECE, UN/CEFACT Trade Facilitation Recommendations, http://www.unece.org/cefact/recommendations/rec\_index.html

World Customs Organization's Revised Kyoto Convention (2008) <u>http://www.wcoomd.org/en/topics/facilitation/instrument-and-</u> tools/conventions/pf\_revised\_kyoto\_conv/kyoto\_new.aspx

World Customs Organization's Customs Guidelines on Integrated Supply Chain Management (2004) <u>http://www.wcoomd.org/en/topics/facilitation/instrument-and-</u> tools/tools/~/media/D81B2807C64A4B669942F88D51D5FCF6.ashx)

World Trade Organization's Trade Facilitation Agreement (2017 – entry into force) https://www.wto.org/english/docs\_e/legal\_e/tfa-nov14\_e.htm

#### Information on other Business Process Analysis methodologies, and general BPA information:

#### General

How to analyse a Business Process Article <u>http://www.bridging-the-gap.com/how-to-analyze-a-business-process/</u> MIT article comparing Lean, TQM, Six Sigma, "and related enterprise process improvement methods" <u>https://michelbaudin.com/2013/01/09/mit-article-comparing-lean-tqm-six-sigma-and-related-enterprise-process-improvement-methods/</u> (link must be copied into browser.)

#### Six Sigma and Lean Six Sigma

Six Sigma Demystified, 2nd Edition, by Paul A. Keller

Lean Six Sigma for Supply Chain Management, Second Edition: The 10-Step Solution Process, by James William Martin

Lean Six Sigma QuickStart Guide: The Simplified Beginner's Guide to Lean Six Sigma, by Benjamin Sweeney

Process Excellent Network (2012). Deming-Based Alternatives to Management by Objective (article by Kelly Allan)

https://www.processexcellencenetwork.com/lean-six-sigma-business-transformation/columns/3-demingbased-alternatives-to-mbo

## Business Process Modelling Notation (BPMN), Decision Modelling Notation (DMN) and Case Modelling Management Notation (CMMN)

Real-Life BPMN [Business Process Modelling Notation]: With introductions to CMMN and DMN, by Jakob Freund

The BPMN Graphic Handbook, by Esteban Herrera

BPMN Method and Style with BPMN Implementers Guide: A Structured Approach, by Bruce Silver

The MicroGuide to Process and Decision Modelling in BPMN/DMN: Building More Effective Processes by Integrating Process Modelling with Decision Modelling, by James Taylor and Tom Debevoise

#### Kaizen

One Small Step Can Change Your Life: The Kaizen Way, by Robert Maurer Ph.D.

The Kaizen Pocket Handbook, by Kenneth W. Dailey

Kaizen in Logistics and Supply Chains, by Euclides Coimbra

#### Multi-Variable Testing (MVT)

Breakthrough Business Results With MVT, by Charles W. Holland (Author) and David Cochran (Contributor)
#### References (Module 1: Session 4)

UNECE and UN/CEFACT (2001). Recommendation No. 18: Facilitation Measures Related to International Trade Procedures. ECE/TRADE/271. Available from http://www.unece.org/fileadmin/DAM/cefact/recommendations/rec18/Rec18\_pub\_2002\_ecetr2 71.pdf

UNECE and UN/CEFACT (2011). UN/CEFACT Recommendation No. 34: Data Simplification and Standardization for International Trade. ECE/TRADE/400. Available from http://www.unece.org/fileadmin/DAM/trade/Publications/ECE-TRADE-400E\_Rec34.pdf

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#### **Outputs from Business Process Modelling**

Annex 1 (Module 1: Session 4)

#### **Use Case Diagram**

One per product, transport mode, and destination

From the Business Process Analysis Guide to Simplify Trade Procedures (UNNeXT, UNECE, ESCAP 2012a).



## Annex 2 (Module 1: Session 4) Activity diagram

One for each use case (i.e. each oval in the Use Case Diagram)

From the Business Process Analysis Guide to Simplify Trade Procedures (UNNeXT, UNECE, ESCAP 2012a).



#### One for each Activity Diagram

Source Business Process Analysis Guide to Simplify Trade Procedures (UNNeXT, UNECE, ESCAP 2012a). A slightly modified, blank form follows.

Case Study – Proc the BPA o	cess description of "2.1) Have the product sampled and examined" use case in f frozen shrimp export from Thailand to the USA, Japan, and the EU								
Name of a process area	Ship								
Name of a business process (use case)	2.1) Have the product sampled and examined								
Related laws, rules, and regulations	Fisheries Act (1497 as amended in 1953 and 1985)								
	Good Aquaculture Practice								
	Code of Conduct for Responsible Shrimp Aquaculture								
	Practical Guideline for HACCP Regulatory Audit								
Process participants	Authorized Private Inspector								
	• Department of Fisheries by <i>Fish Inspection</i> and Quality Control <i>Division or Fish Inspection</i> and Research Centre in Samutsakorn, Suratthani, or Songkhla								
	Exporter (or Representative)								
Input and criteria to	Shrimp processing plant has already been registered by Department of Fisheries.								
business process	Shrimp processing plant is a member of Thai Frozen Foods Association.								
	• Shrimp processing plant has complied with Department of Fisheries' HACCP-based requirements. (As of 2000, 92% of processors have been implementing HACCP effectively.*)								
Activities and associated	2.1.1. Exporter (or Representative) has product ready for sampling.								
requirements	2.1.2. Exporter (or Representative) contacts Department of Fisheries by phone to schedule the sampling date.								
	2.1.3. Department of Fisheries notified the date for sample collection								
	2.1.4. Exporter (or Representative) prepares the Request for Product Sampling and Inspection (DOF./KTS.								
	2) and submit in person or by fax to Department of Fisheries. Exporter (or Representative) must use the paper with the logo of the processing plant when preparing the Request. Prior to submitting the Request, Exporter (or Representative) must make sure that the Request for Product Sampling and Inspection (DOF./KTS. 2) has the name of the processing plant, type(s) of product(s) to be sampled and inspected, description of product(s) to be sampled and inspected, the name of importing country, the quantity to be exported, the signature of the authorized person, and company's stamp.								
	2.1.5. After receiving the Request for Product Sampling and Inspection (DOF./KTS. 2), an officer								

	from Department of Fisheries goes to the processing plant to collect sample. There is no fee for product sampling. Exporter (or representative) only has to cover for officer's traveling expense.
	2.1.6. An officer from Department of Fisheries records the sampling result.
	2.1.7. An officer from Department of Fisheries examines the collected sample according to the standards and requirements of the importing country. The inspection service provided by Department of Fisheries is free of charge.
	2.1.8. An officer from Department of Fisheries records the results and prepares the Test Report which more or less contains test report no., date of issue, office of inspector, address of office of inspector, client name, client address, place of destination, description of goods, packing, gross weight per pack, net weight per pack, weight unit, number of package, total number of package, sample characteristic and condition, date of sampling/date of receipt, date of analysis/date of test, test method, microbiological result, chemical result, physical result, overall result (accept/reject), name of inspector, signature of inspector, name of authorized senior inspector, and signature of authorized senior inspector. There is no standard format for Test Report.
	2.1.9. Exporter (or Representative) goes to Department of Fisheries to collect Test Report. The Test Report can be collected after the sample has been collected for 10 days.
	2.1.10. In case an inspection by Authorized Private Inspector is required, Exporter (or Representative) has to collect the sample. The inspection by Authorized Private Inspector is normally required when Exporter (or Representative) has an urgent need for product inspection or when the scope of product inspection is beyond the standards and requirements of the importing country.
	2.1.11. Exporter (or Representative) also has to deliver the sample to Authorized Private Inspector.
	2.1.12. Authorized Private Inspector then examines the sample.
	2.1.13. Authorized Private Inspector records the results and prepares the Test report.
	2.1.14. Exporter (or Representative) collects the Test Report after the sample has been delivering for 7 days. The cost of inspection can be as high as 8,000 Baht.
Output and criteria to exit	Exporter or Representative receives the test report.
the business process	
Average time to complete this business process	14 Days
Source: ESCAP from The Ar	nalysis of Frozen Shrimp Export Process in Thailand, Institute for IT Innovation, Kasetsart University
* Suwanrangsi, S. (2002). E. Hanak, E. Boutrif, P. Fabre,	xperiences in the Application of HACCP for Export and Local Markets: The Case of Thai Fisheries. In E. and M. Pineiro. Food Safety Management in Developing Countries: Proceedings of the International

V1 31-01-2018

Workshop, CIRAD-FAO, 11-13 December 2000, Tim, France.

## **Template for Business Process Descriptions**

#### One to be prepared for each Use Case/Activity Diagram

# Used, together with the activity diagrams, for preparing the time/procedure charts (Annex 4)

## Information added to original form above

Name of process area	ABCD (example, "Ship")
Name of business process activity (use case)	X.X ABCD (example: "2.1 Have the product sampled and examined")
Process participants	
Input and criteria to enter/begin the process	
Parallel Processes	List any other processes/activities that can be carried out entirely or partially in parallel to this one. If the reply is "partially", provide details (for example, "process 2.4 can take place in parallel, beginning at activity 2.2.3, provided that the entry criteria for process 2.4 are present").
Activities and associated requirements	X.X.1 ABC (Example "2.1.1 Have product ready for sampling")
	X.X.2
	etc.
	If information can be submitted electronically, indicate this and how (through electronic file formats such as EDI, XML, Internet portal, pdf, etc.). In the case of electronic submission, also indicate if paper documents (paper or scanned PDFs) must (eventually) be submitted, and when (i.e. inside of a week, a month, 6 months etc.).
Output and criteria to exit the business process	
Common exceptions	What are the most common exceptions in this procedure (missing information, missing documents, illegible papers, etc.), approximately how often do they occur and how are they handled.

ESTIMATED TIMES FOR COMPLETING THIS ACTIVITY							
Optimistic time estimate							
Pessimistic time estimate							
Most likely (expected) time estimate							
Average time required to complete this business process based on above	Calculation: Optimistic Time + (4* Most Likely Time) + Pessimistic Time						
	6						
Estimated Cost of Activity	If there are a wide range of costs, put this information in annex and follow the same format as for time (optimistic estimate, pessimistic estimate and most likely cost).						

### Annex 4 (Module 1: Session 4) Time Procedures Chart

One for entire process (i.e. one column for each Use case/Activity diagram). It may also be useful to develop charts for individual use cases, depending upon their complexity.



Example from the UNECE/ESCAP Business Process Modelling Guide.

# These look the same as Time Procedures Charts except that costs are shown on the Y axis instead of days.

Where the costs are known, these should be indicated for each procedure. An average or median cost can be used. However, if there are a wide range of costs, put this information in annex and follow the same format as for time (optimistic estimate, pessimistic estimate and most likely cost). For ease of calculation of total costs, and for looking at how change may impact total cost, it may be useful to put these figures into a spreadsheet such as Excel.

### Annex 5 (Module 1: Session 4) Data Harmonization Process and Forms Linked to the BPA Process

The table below outlines the different steps in a data harmonization project. The forms after the table are for use in collecting data information as part of a Business Process Analysis.

	Step 1	Step 2	Step 3	Step 4	Step 5
Purpose	Capture data requirements in business documents identified through Business Process Analysis	Provide a precise definition for the data elements	Analyse data elements across various documents	Reconcile data elements and obtain a data model	Obtain structure of the electronic document
Activity	Business Process Analysis (optional) Collect a list of documents and basic data requirements	Analyse each document to define data definition, type, format and constraints	Organize data elements in a comparable manner for analysis	Map the data elements to reference data model (for example, WCO DM*)	Generate electronic document(s) (If using WCO DM, customize XML schema by referring to Implementation Guide provided by WCO DM
Input	BPA results, target business documents	List of Documents	List of Document Data Dictionaries	Document Data Dictionary Compilation	Message Implementation Guide (MIG) (If using WCO DM, WCO DM XML schemas)
Output	Collection of documents, forms and messages. Optional Business Process description (UML Diagrams)	Document Data Dictionary for each document	Document Data Dictionary compilation for each document family	Data Dictionary with mapping to reference data model	Electronic Document(s) (If using the WCO DM, Customized XML schemas and XML messages in compliance with WCO DM)

#### Steps for data harmonization and development of electronic documents

\*WCO DM = World Customs Organization Data Model (UNNeXT, UNECE and ESCAP, 2012b.)

# **Business Process Analysis – Data Harmonization Outputs**

#### Outputs to support data harmonization and streamlined document set

A Data Inventory consisting of two cross-referenced (via Activity Diagram Number) databases/spreadsheets:

- 1) A DATA SUBMISSION table which describes an entire data submission (i.e. document, electronic form, etc.)
- 2) A DATA ELEMENT table which describes each individual data element in a submission. There is one Data Element table for each Data Submission and it forms a sort of "data dictionary" for the data submission

For each form the basic description should be filled in <u>based on information provided by the agencies that request the data</u>. Much of the information, especially for the "Data Submission" can be taken directly from the referenced Activity Diagram. However, some fields may require input from an IT data specialist in the collecting agency.

After all data from all forms is entered, it needs to be analysed and proposals developed for data harmonization. These proposals would then need to be reviewed and agreed to by a working group with representatives from all collecting agencies.

Description of each I	DATA SUBMISSION id	lentified (which could be a	a paper document	, an electronic form or even	a scanned pdf sent by	v email)
						, ,

Activity	Name of	Country	Descripti	Who	Who	Electroni	lf not	Signature	Elec.	Original	When is	IDs for any	Source of	Expiratio
Diagra	Form or	(ISO 2	on	provi	receive	с	electronic,	required?	signatu	Сору	form	accompanyi	Legal	n of
m (AD)	elec.	alpha)		des	s form	submissi	where is		re	required	/data	ng forms or	Authority for	Legal
Numbe	submissi			form /		on	form		accept	? <sup>19</sup>	submitte	parallel	collecting	Authority
r <sup>18</sup>	on			data		allowed	submitted		ed?		d?	data	agency to	
						instead	?					submission	ask for this	
						of paper?						<b>S</b> <sup>20</sup>	information	

<sup>18</sup> The number for the activity diagram and the "box" in the activity diagram where the document/data is submitted

<sup>&</sup>lt;sup>19</sup> If yes, then a description of what the collecting agency accepts as being an original document should be provided

<sup>&</sup>lt;sup>20</sup> For when multiple forms need to be submitted together or when a process requires that more than one electronic submission be made

Description of each DATA ELEMENT on a form or in an electronic submission. Each entry in this table is explained in more detail below the form.

Activity Diagram (AD) Number	Data element name	Data element description	Mode of Transport	Data type A = Alpha N = Numeric AN = Alpha- numeric	Data Domain (list of possible values)	Int. Standard Identifier (if based on an Int. Standard)	Data Source:	Trade Source:	Agency Source: see description	Location if on a paper Form	Remarks/Comments

#### DESCRIPTION OF INFORMATION TO BE ENTERED IN DATA ELEMENT DESCRIPTION TABLE ABOVE

#### This is based on UN/CEFACT Recommendation 34, Data Simplification and Standardization for International Trade

• Activity Diagram number - The number for the activity diagram and the "box" in the activity diagram where the document/data is submitted.

• Data element name - The name of the data element being defined. The naming of the data element should reflect the common business terminology used by the agency (not a computer related name).

• Data element description - A detailed description of the data element.

• Mode of Transport - Indicate the mode of transport (maritime, rail, road, air, inland water, other) for which the element is used.

• Data type - The data type can be N (Numeric), A (Alpha) or AN (Alphanumeric)

• Data domain - If the data element has a discrete list of values or a range of values, provide the list, range, or a reference to the list or range. For example, the data element country could be restricted to the values in the ISO country code table.

• International Standard Identifier – The identifier of data element if it is defined in an International Standard with a reference to the standard (i.e. TDED and, UN/EDIFACT, WCO DM, or CCL).

• Data source - Indicate if the information is provided by trade, government, or derived:

- TRADE indicates that the data originates from and is filed by the trading partners.
- TRANSPORT indicates that the data originates from and is filed by the carrier or means of transport.
- GOVERNMENT indicates the data is created by an agency of the government. An example of the latter would be the findings from an investigation.
- UNKNOWN: If unsure, enter a letter U here for unknown.
- DERIVED data is calculated by, or extracted from, a reference file. (e.g. the rate of duty could be extracted from a Harmonized Tariff file, or derived by the computer system from a combination of one or more other data elements.)

• Trade Source - If the data source above is "TRADE", identify which party in the transaction is responsible for filing the data element. Suggested values are T (trader - importer, exporter, broker, forwarder, etc.); C (carrier) or CARRIER AND TRADER. If unsure, enter a letter U here for unknown.

• Agency source - If the DATA SOURCE is "GOVERNMENT", identify the agency that creates the data for this element.

• Location, if on a paper form: To facilitate locating the reference on the form a standard reference system can be used (for example four sections lettered A to D with the upper left quadrant being A and the lower left D going around clockwise – together with page number for multi-page forms.

• Remarks/Comments - Free form text that can be used to annotate the data element.

# Data element information included in UNECE Recommendation 34 on Data Harmonization and included in the "Description of the Data Submission" instead of in the table for the data element description

• Source of legal authority - Cite the source of legal authority or jurisdiction to collect or view. The authority may be derived from a specific form, a regulation, legislative mandate, Memorandum of Understanding (MoU) or other. Quote all legal authorities that apply if there are multiple sources. Do not provide the text of the citation.

• Expiration date of legal authority - Provide the date of expiry of the legal permission for the agency to view or collect the data. Specify N/A where the authority does not expire.

• Timing, when data is required and provided - Identify the point (of the transaction's lifecycle) at which the agency expects to have access to the data element. Suggested values are: PRE-ARRIVAL, ARRIVAL, RELEASE, POST RELEASE or DATA WAREHOUSE etc.). If unsure, enter a letter U here for unknown.

#### FOR INFORMATION ONLY

#### Data element information included in UNECE Recommendation 34 on Data Harmonization and <u>not</u> included in the data element description table above:

• Authority Type (to collect or view) - This identifies whether the agency is legally permitted or competent to collect or view this element. If authority allows collection and viewing, enter the word COLLECT. Otherwise, enter VIEW. Note: does not seem relevant for this exercise and, if needed, can be obtained from the "Source of Legal Authority" document

The following 2 are not included because the Information is in the Activity Diagram:

- Process Indicate (if required) for export, import or in-transit processes.
- Category of use Indicate (if required) for cargo, means of transport, crew, or equipment.

# MODULE 2 FACILITATION OF IMPORT AND EXPORT PROCEDURES

#### SESSION 1 HIGH LEVEL POLICY ORIENTATIONS

# **1. What is Trade Facilitation?**

Bureaucratic delays and "red tape" pose a burden to cross-border trade of goods and services. With the progressive dismantling of tariff barriers, trade facilitation has increasingly emerged as an important issue for the world trading system. In its simplest form, it involves removing the regulatory and procedural obstacles that disrupt the flow of cross-border exchanges.

If import is allowed and goods pass through the relevant procedures for technical certification and/or measures of sanitary and phytosanitary control, then they are released. Can we assume that all obstacles to its delivery to the buyer are now lifted? No, we can't. The next barriers to free movement of goods and services may be the customs of the exporting country, and almost certainly the customs of the importing country, due to inadequate methods of export and import customs control.

In the current globalized economy, where numerous cross-border processes in geographically dispersed areas have become the norm, burdensome costs and unjustified delays (as well as ambiguity due to the complexity and unpredictability of the established rules) jeopardize the achievement of equal trading opportunities.

In other words, the poor can't cope with the costs associated with delays, as well as the rich one. There is increasing evidence that small and medium-sized enterprises, which account for up to 60 per cent of countries' GDP, face substantive obstacles to access international markets because of the excessive burden of trade formalities. The problem lies not only in the large number of documents and (as a rule) their duplication, but also in the lack of transparency and cooperation between customs services internationally. The United Nations Centre for Trade and Development (UNCTAD) indicates that documentation costs international trade amount to 3.5 to 7 per cent of the goods value, which means that a reduction in this part of the costs would significantly ease the situation for exporters and importers. Among the main barriers to international trade, business representatives note the presence of discrepancies in documents, a large number of rules, significant difficulties in the passing of goods across the border, which causes temporal and material costs.

According to the World Trade Organization (WTO), the costs of import tariffs often turn out to be less than the losses incurred by the international trade community because of time-consuming and expensive customs clearance procedures, unclear and excessive documentation requirements and ignorance of information technologies. Unnecessary costs and "red tape" when moving goods across the border increase the cost of international trade by almost 12 per cent. (WTO, 2015)

For this reason, the WTO rules on the multilateral trading system had to be expanded, creating a new regulatory framework to help its members cope with such challenges. Thus, the WTO Trade Facilitation Agreement (TFA) was created to help cope with bureaucracy, expedite customs and port procedures, increase transparency and predictability and facilitate the provision of technical support with the goal of building the capacity of developing and least developed countries. This has become an important driver that could potentially improve equality of opportunity.

So, what is exactly trade facilitation? Trade facilitation is defined by the United Nations Economic Commission for Europe (UNECE) and its United Nations Centre for Trade Facilitation and Electronic Business (UN/CEFACT) as the "...simplification, harmonization and standardization of procedures and associated information flows required to move goods internationally from buyer to seller

and to pass payment in the other direction" (UN/CEFACT). Such a definition implies that not only the physical movement of goods is important in a supply chain, but also the associated information flows. It encompasses all governmental agencies (e.g. Customs) that intervene in the transit of goods and the various commercial entities that conduct business and move the goods. This is in line with ongoing discussions on trade facilitation at the WTO and the provisions of the WTO Trade Facilitation Agreement (TFA).

Therefore, the primary goal of trade facilitation is to help make trade across borders (imports and exports) faster, cheaper and more predictable while ensuring its safety and security. In terms of focus, it is about simplifying and harmonizing formalities, procedures, and the related exchange of information and documents between the various partners in the supply chain.

# 2. The benefits of trade facilitation - cutting "red tape" at the border

According to the WTO brief on trade facilitation<sup>21</sup> "...the full implementation of the TFA is estimated to reduce global trade costs by an average of 14.3%, with developing countries and least-developed countries (LDCs) forecast to enjoy the biggest average reduction in trade costs. Full implementation has also been found to potentially reduce the average time needed to import by 47%. Cuts in export time will be even more dramatic: estimates predict a 91% reduction of the current average."

It should increase the opportunity for developing countries to participate in global value chains. Furthermore, there is statistical evidence to show that, with trade facilitation reform, micro, small and medium-sized firms are more likely to export and to increase their export shares than large firms. Developing countries and LDCs implementing the TFA should also attract more foreign direct investment (FDI) while improving their revenue collection and reducing the incidence of corruption.

By easing the time and costs burdens, the TFA is expected to increase exports from existing traders while also enabling new firms to export for the first time. Furthermore, the TFA is forecast to add up to 2.7 per cent a year to world export growth and more than 0.5 per cent a year to world GDP growth over the 2015 to 2030 horizon. Developing countries are expected to enjoy larger gains than the global average. The swift and full implementation of the TFA is estimated to boost their exports by 3.5 per cent annually and augment their economic growth by 0.9 per cent each year. Overall, two thirds of all benefits are predicted to go to the developing and least-developed world. For the first time in WTO history, the requirement to implement the TFA is directly linked to the capacity of the country to do so. It is now universally recognized that trade facilitation is about making trade (including imports, exports and goods in transit) easier and less costly. These key elements will bring significant economic benefits by making the whole process of trade simpler and smoother. A country which successfully renders cross-border procedures more effective, efficient and better streamlined, will benefit in terms of improved competitiveness, which leads to an increase in exports and economic growth of the country.

The importance of facilitating import and export procedures is also inscribed in the Sustainable Development Agenda for Transforming our World by 2030. This concern the following targets related to trade:

<sup>&</sup>lt;sup>21</sup> https://www.wto.org/english/tratop\_e/tradfa\_e/tradfa\_introduction\_e.htm

- **SDG 17.10** Promote a universal, rules-based, open, non-discriminatory and equitable multilateral trading system under the World Trade Organization, including through the conclusion of negotiations under its Doha Development Agenda;
- **SDG 17.11** Significantly increase the exports of developing countries, in particular with a view to doubling the least developed countries' share of global exports by 2020;
- SDG 17.12 Realize timely implementation of duty-free and quota-free market access on a lasting basis for all least developed countries, consistent with World Trade Organization decisions, including by ensuring that preferential rules of origin applicable to imports from least developed countries are transparent and simple, and contribute to facilitating market access.

Trade facilitation efforts, such as simplifying required paperwork, modernizing procedures and harmonizing customs requirements, can slash the costs and time needed to export and import goods. This is critical as trade costs can be equivalent to a 134% ad valorem tariff on a product in high-income countries and a 219% tariff equivalent in developing countries, according to a 2015 study by WTO economists. Reductions in time and costs to trade can thus make the difference between a country seamlessly linking up to an integrated global production chain or being left on the margins of a big part of world trade. Moreover, amid a global slowdown in trade, easing trade processes can provide a critical boost to international trade and the global economy. (WTO, 2015).

To strengthen these efforts WTO members concluded negotiations at the 2013 Bali Ministerial Conference on the landmark Trade Facilitation Agreement (TFA), which entered into force on 22 February 2017, following its ratification by two-thirds of the WTO membership. The TFA contains provisions for expediting the movement, release and clearance of goods, including goods in transit. It also sets out measures for effective cooperation between customs and other appropriate authorities on trade facilitation and customs compliance issues. It further contains provisions for technical assistance and capacity building in these areas.

According to Organization for Economic Cooperation and Development (OECD)—which is involved in the WTO negotiations as an observer and provides technical reports on the current problems and the benefits of WTO TFA—the measures that would make the biggest impact in terms of reducing costs are:

- harmonization of documents
- streamlining of customs procedures
- predictability in customs regulations

The main benefits of trade facilitation are, that by introducing several practical measures such as streamlining cross-border procedures, creating a better functioning organization, avoiding redundant actions and ensuring information is only provided once, the time to release goods when crossing borders could be reduced considerably and the costs could be cut in a significant way.

#### Figure 2.0

Benefits for public entities
<ul> <li>enhanced trade tax collection</li> <li>better use of resources</li> <li>increased trader compliance</li> <li>more efficient and transparent delivery of public services</li> <li>high security levels and effective government control</li> <li>diminishing opportunities for corruption</li> </ul>
Benefits for Traders
<ul> <li>higher predictability</li> <li>speed of operations</li> <li>lower transaction costs</li> <li>competitive exports on global markets</li> </ul>
Benefits for countries
<ul> <li>reduces unnecessary delays</li> <li>Lower trade costs attract investments</li> <li>supports growth and job creation</li> <li>particularly beneficial for developing countries</li> </ul>

# 3. Legal and regulatory framework on trade facilitation

#### 3.1 Global Agreements and Conventions, and their implementation instruments

International Conventions are important Trade Facilitation instruments as they provide a firm legal framework for trade facilitation measures.<sup>22</sup> Some of these Conventions are specific to a mode of transport (e.g. Chicago Convention, FAL Convention and TIR Convention which regulate the domains of air, maritime and road respectively). Some are specific to a domain (e.g. the Revised Kyoto Convention on Customs) or have a wide trade-related scope, such as the WTO TFA.

Recommendations and standards are instruments with non-legal binding force. They propose a given behaviour and provide guidance on technical matter that would allow countries to attain the highest degree of harmonization and uniformity. United Nations instruments are developed through a transparent development process that is open to all countries and interested parties, such as trade associations. Examples include the World Customs Organization (WCO) Data Model, the UNECE Core Component Library (CCL), UNCEFACT XML naming and design rules, etc.

In addition, other important implementation instruments are available to the trade community as they work towards standardization and harmonization of trade law and its interpretation. Some of them are the UNECE Trade Facilitation Implementation Guide; UNECE and United Nations Economic and Social Commission for Asia and the Pacific (ESCAP) Guide for the Design of Aligned Trade Forms for Paperless Trade; OSCE-UNECE Handbook of Best Practices at Border Crossing - A trade and

<sup>&</sup>lt;sup>22</sup> A list of the most relevant international conventions in this field is provided for under Resources.

Transport Facilitation Perspective; UNNExT Data Harmonization and Modelling Guide; UNNExT Guide on Business Process Analysis; etc.

Finally, many country assessment reports and studies refer to international rankings of countries' trade facilitation or related performance and situation. These rankings do not provide implementation guidance and are therefore not instruments per se. They are, however, often used to benchmark a country's situation and measure progress. The two main indicators are the Logistics Performance Index (LPI) by the World Bank and the Doing Business report by the World Bank Group.

#### a) The WTO Trade Facilitation Agreement

The Trade Facilitation Agreement (TFA) entered into force on 22 February 2017. In respect of each member that accepts the TFA after its entry into force, the agreement becomes effective upon adoption, in accordance with Article X: 3 of the Marrakesh Agreement Establishing the World Trade Organization.

With the Agreement on Trade Facilitation, WTO members established a new legal framework for trade facilitation reforms. The agreement contains three sections:

- Section I with the substantive obligations, including amongst others, obligations on publication
  and access to trade related information, appeal procedures, the simplification of trade
  procedures and goods clearance processes, agency cooperation, as well as cross-border
  customs cooperation. It also contains provisions for expediting the movement, release and
  clearance of goods, including goods in transit. It clarifies and improves the relevant articles
  (V, VIII and X) of the General Agreement on Tariffs and Trade (GATT)<sup>23</sup>.
- Section II includes the provisions on special and differential treatment for developing and leastdeveloped country members as well as the provision of technical assistance and capacity building. The special and differential treatment (SDT) provisions allows developing and leastdeveloped countries (LDCs) to determine when they will implement individual provisions of the Agreement and to identify provisions that they will only be able to implement upon the receipt of technical assistance and support for capacity building. To benefit from SDT, a member must categorize each provision of the Agreement, as defined below, and notify other WTO members of these categorizations in accordance with specific timelines outlined in the Agreement (see below).
  - Category A: provisions that the member will implement by the time the Agreement enters into force (or in the case of a least-developed country within one year after entry into force)
  - Category B: provisions that the member will implement after a transitional period following the entry into force of the Agreement
  - Category C: provisions that the member will implement on a date after a transitional period following the entry into force of the Agreement and requiring the acquisition of assistance and support for capacity building.
- Section III is made up of two articles addressing institutional arrangements and final provisions, such as the relationship with the other WTO Agreements, and the accession process of Members to the Agreement after entry into force. It contains provisions that establish a permanent committee on trade facilitation at the WTO, and requires members to have a national

<sup>&</sup>lt;sup>23</sup> See <u>https://www.wto.org/english/docs\_e/legal\_e/gatt47.pdf</u>

committee to facilitate domestic coordination and implementation of the provisions of the Agreement.

For provisions designated as categories B and C, the member must provide dates for implementation of the following provisions: Special and differential treatment for LDCs and Special and differential treatment for developing countries<sup>24</sup>.

The TFA broke new ground for developing countries and LDCs in the way it will be implemented. It is the first WTO agreement in which these WTO members can determine their own implementation schedules and in which progress in implementation is explicitly linked to technical and financial capacity. In addition, the Agreement states that assistance and support should be provided to help them achieve that capacity. A Trade Facilitation Agreement Facility (TFAF) was created at the request of developing and least-developed countries to help ensure that they receive the assistance needed to reap the full benefits of the TFA and to support the ultimate goal of full implementation of the new agreement by all WTO members.

Developed countries have committed to apply the substantive portions of the TFA from the date it takes effect. Developing countries and least-developed countries (LDCs), meanwhile, will only apply those substantive provisions of the TFA which they have indicated they are in a position to do from the date of the TFA's entry into force. LDCs were given an additional year to do so. These commitments are set out in the submitted Category A notifications mentioned above. The TFA provides for the establishment of a Committee on Trade Facilitation to periodically review the Agreement's operation and implementation.

The Kyrgyz Republic ratified the WTO Trade Facilitation Agreement on 6 December 2016. And it has so far notified only the WTO TFA Category A commitments. The country designated the following provisions contained in Section I of the Agreement as Category A commitments:

- Article 4 All provisions (Procedures for Appeal or Review)
- Article 5 Paragraph 2 (Detention)
- Article 9 (Movement of Goods Intended for Import under Customs Control)
- Article 10 Paragraph 5 (Pre-shipment Inspection)
- Article 11 Paragraphs 1 to 4 (Transit Charges, Regulations, Formalities and Non-Discrimination).

#### **b)** Regional Agreements

The Eurasian Economic Union (EAEU) is an international organization for regional economic integration. It has international, legal personality and is established by the Treaty on the Eurasian Economic Union. The EAEU provides for free movement of goods, services, capital and labour. As of 2018, the member states of the Eurasian Economic Union are the Republic of Armenia, the Republic of Belarus, the Republic of Kazakhstan, the Kyrgyz Republic and the Russian Federation. The Treaty on the Eurasian Economic Union entered into force for Kyrgyzstan in 2015.<sup>25</sup>

<sup>&</sup>lt;sup>24</sup> As outlined in the following two factsheets, available from <u>https://www.wto.org/english/tratop\_e/tradfa\_e/tradfatheagreement\_e.htm.</u>

<sup>&</sup>lt;sup>25</sup> Source: EAEU website: <u>http://www.eaeunion.org/?lang=en#about</u>.

On 11 April 2017, the Presidents of the countries of the Union signed the Treaty on the Customs Code of the Eurasian Economic Union. The Customs Code of the EAEU is a modern instrument of customs regulation that meets the challenges of today. Compared with the Customs Code of the Customs Union, effective from 2010, the new document provides for several significant innovations aimed at improving customs regulation and ensuring a balance of interests between state bodies and the business community. The new Customs Code came into force on January 1, 2018.

Within the scope of the Treaty, several types of legal acts can be adopted: Acts by the Supreme Eurasian Economic Council, the Acts of the Intergovernmental Eurasian Council and the Eurasian economic Commission. Of special importance here are the Acts that govern international trade and in particular the harmonization of the Single Window in the member states. For the moment, progress has been made with the standardization of data, and work is ongoing on rendering the Single Windows of the member states compatible within the EAEU.

# c) Relevance of the current and planned legal framework on trade facilitation in the Kyrgyz Republic

It is important for the Kyrgyz Republic to be involved in the creation of new trade-related international law in order defend its interests and to ensure that proposed texts take into account the specific situation of the Kyrgyz Republic, such as being a landlocked country and a member of the Eurasian Economic Union, WTO, etc.

Signing Conventions and treaties brings about new obligations which often have set deadlines. Therefore, it is important that these obligations are communicated, and a plan prepared for the required implementation. Changes not only take time to materialize, but also depend on availability of human and financial resources to implement them. The implementation of the new EAEU Customs Code will require adaption of processes, procedures and data requirements. Careful study work will need to be performed to document all changes and plan implementation. As part of the customs work depends on automation systems (ICT), these changes also require careful study and planning. It is very important decision makers and the persons in charge of implementation communicate clearly to avoid operational problems or missed deadlines.

# 4. The institutional Framework - the starting point to streamline trade procedure

#### **4.1 National Trade Facilitation Committees (NTFC)**

The experience of many countries has shown that identifying trade issues and priorities can best be achieved through a dialogue between Government and the trading community and this can be accomplished through the establishment of a National Trade Facilitation Body. With this objective in mind, representatives of member states and international organizations have developed and adopted the previous versions of UNECE Recommendation No. 4, which were used for the establishment of trade and transport facilitation committees in many countries since the 1970s.

The WTO TFA echoes the importance of a whole of government approach and requires Members to set up a national trade facilitation committee "...to facilitate both domestic coordination and implementation of the provisions of the TFA." (Article 23.2). Past experiences with trade facilitation reforms and projects point to the usefulness of setting up a cross-government body that drives the reforms on a strategic and often also technical level. Trade facilitation is by its very nature a policy area that cuts across organizational and ministerial portfolios. A successful trade facilitation reform rests

upon a partnership between government agencies and the stakeholders, including traders and intermediaries.

A National Trade Facilitation Committee (NTFC) encompasses all trade facilitation issues including regulatory, operational, customs, multimodal transport, transit, logistics, banking and finance, agriculture, sanitary and phytosanitary, health, and electronic business issues, among other related topics. Key success factors for establishing an NTFC include (but are not limited to) favourable government policies for economic development and trade; a robust and dynamic private sector; the availability of human and financial resources; and a strong political will to improve the performance of international trade transactions and supply chains.

Trade facilitation committees, in addition to providing an inclusive and constructive consultation process, will give stakeholders the opportunity and means to voice their viewpoints, clarify issues, and engage in meaningful dialogue. Within a Government's overall national trade-policy framework, the NTFC can coordinate the relevant stakeholders in order to devise a strategy that offers a holistic approach to national trade facilitation activities including coordination at a policy level, the development of trade simplification measures and proposals for action plans. The NTFC can present this strategy to the relevant government institutions for endorsement, support and for obtaining a mandate for the implementation of the strategy.

#### a) The task and role of National Trade Facilitation Committees

UN/CEFACT drafted the first recommendation on trade facilitation bodies, Recommendation. No.4, in 1974 and updated it in 2015 due to the changing context of trade facilitation and the adoption of the WTO TFA. Such national committees have always been a feature of trade facilitation and the focus of trade facilitation reforms should not just be the implementation of the WTO TFA. However, the WTO TFA provides a new and strong driver for line ministries to engage and make coordination and consultation work. There are many challenges to make a whole-of-government and private-public trade facilitation approach work. The multitude and variety of stakeholders with competing imperatives is part of the challenge—along with addressing both design and delivery, and strategic and technical aspects of trade facilitation. This will contribute to the implementation of the WTO TFA and deliver the expected gains from trade facilitation for both governments and the business community.

The revised Recommendation No. 4 suggests that governments establish national trade facilitation committees (NTFCs) as an indispensable component of trade-policy formation, embracing the views and opinions of all stakeholders in pursuing agreement, cooperation and collaboration. Due to the multiplicity of trade facilitation bodies that have emerged in countries in recent years (e.g. the Coordination Committee for Single Window, National Trade and Transport Facilitation Committees, National Logistics Council, and so on) there is increased demand for a national platform to be the main coordinating body for any trade facilitation reform, and to facilitate effective consultation among the public and private sector stakeholders.

The UNECE recommendation and guidelines provide a detailed description of the steps for establishing the national trade facilitation committee. The guidelines also include a terms of reference (non-exhaustive) for the NTFB to use or customize based on the country context. It suggests that the NTFB should be structured in three layers: Strategic, Operational and Technical. At the strategic level the NTFB Board provides strategic decisions coherent with national economic policies and priorities. At the operational level all NTFB members discuss and recommend specific actions to implement the decisions, while at the technical level working groups undertake the actual technical work as needed. A conceptual representation of this structure has been developed in UNECE Recommendation no. 40 on consultation approaches.

One of the main purposes an NTFC—if not its main purpose—is to coordinate or orchestrate dialogue between governments and business/traders to promote trade-facilitating responses to proposals for border measures. This is reflected in several TFA measures that require dialogue, consultation and information sharing between the government and business community. The way that an NTFB approaches the organization of such dialogue is critical to its effectiveness and success. As explained in this chapter, many models are available to NTFCs. Ultimately, the aim of effective consultation is optimized results that meet all stakeholders' interests. The new UNECE Recommendation No. 40, which serves to complement Recommendation No. 4, sets out several basic principles that NTFBs must take into account in organizing such dialogue. These include:

- Building partnership and trust through an approach that recognizes the need for mutual benefits, constructiveness rather than a platform for special lobbying, awareness raising about other stakeholders' interests and positions, and leadership;
- Promoting transparent and accountable dialogue, permitting participants to have access to information in order to prepare properly for consultation and work towards solutions at an early enough stage that participants can be assured their opinions are relevant and valid;
- Managing differences of opinion and interest—since NTFCs may have to act as honest brokers, it is important that they do not take sides but balance the differences even-handedly with a focus on what is best for trade facilitation;
- 4) Being results-oriented, ensuring that participants' time in the consultation process is valued, while at the same time recognizing that compromise may be needed as part of collaboration;
- Conducting consultations as an iterative process with respect for time and timing, meaning that consultation may not be a one-off event but part of a project requiring long-term commitment to the process;
- Ensuring accountability and responsibility, both in terms of the conduct of participants and the way the NTFC formally records the results of the consultation process and how decisions were reached.

By following these principles, partnership and trust can be built and maintained between governments and traders. This, in turn, will result in more effective trade facilitation reforms as well as policy harmonization and compliance that will yield results to both governments and businesses.

#### b) Composition of the National Trade Facilitation Body

Recommendation UNECE No. 4 provides terms of reference (ToR) and a non-exhaustive list of the participants that should be represented including importers, exporters, freight forwarders, carriers, customs, other government agencies, banks, insurance companies and other stakeholders. Participants from the Government and public administrations have a joint and separate interest in the facilitation of trade. Private sector participants in such bodies should include representatives from all industry sectors, all types and size of business, and institutions taking part in international trade: manufacturers, importers, exporters, freight forwarders, carriers, banks, insurance companies, etc. Annex 3 of the Recommendation proposes a toolbox for identifying the pertinent actors. It is only with the active involvement of these participants that impediments can be meaningfully analysed and cooperative solutions devised.

The NTFC can hire temporary or permanent staff or experts according to its structure for administrative and substantive purposes as required. Hiring of staff or experts needs to follow a precise Terms of Reference agreed upon either by the Bureau of the NTFC or members of the NTFC and a transparent selection process. All candidates for permanent employment or secondment to the NTFC should be subjected to a rigorous, yet fair selection process. Some of the qualities needed would be a skill set including interpersonal, oral, written and presentation abilities, plus knowledge and competencies to perform the related tasks (e.g. conduct research, undertake negotiations and prepare trade facilitation proposals or reports). The abilities described are indicative (not exhaustive) and

candidates would also have additional, specific skills that ideally fit them for the position. Finally, but equally important, the process must appreciate national diversity in the form of gender, religion, ethnicity, age and other personal characteristics and avoid any form of discrimination.

The NTFC should be a ready source of information for all trade facilitation related information. For smooth functioning it needs to maintain, record and supply information (reports, official orders, meeting minutes, policy documents, project documents, trade or related quantitative data, etc.) generated for or from NTFB meetings, ad hoc working groups or members or stakeholders that may be relevant for the activities of NTFB.

# **5. Structural measures to streamline import and export procedures**

In developing policies and laws there are several important factors and developments that need to be taken into consideration to effectively streamline import and export procedures. Based on the recommendations of the UNECE Regulatory and Procedural Barriers to Trade in Kyrgyzstan in 2015, priority intervention areas include supply chain security, authorized economic operator programmes, electronic declarations and automation. This chapter will briefly present some of them along with legal basis elements which are essential for their successful implementation.

#### **5.1 Supply Chain security**

As a government task for Customs, supply chain security puts additional pressure on Customs to find the right balance between control/security and trade facilitation. In order to meet the security requirements Customs are advised to put in place advance electronic cargo information obligations, based upon the WCO SAFE Framework of Standards<sup>26</sup>. Applying these standards, government services can facilitate the exchange of standardized information and enable trade to meet the requirements of customs services in a uniform manner in the region and countries in which they perform trade operations.

A second step in ensuring the supply chain security is the employment of a consistent riskmanagement approach to address threats. This is composed of two main factors. The first is to apply electronic risk analysis based on established risk criteria and risk profiles. Secondly, to avoid heavy demand on human resources for inspections, it is also important to improve the quality of data especially information on the companies and individuals involved in international trade in a given country or region. The concept of the authorized Economic Operator (AEO) has been created to provide legitimate trade with a mechanism to receive tangible benefits for their commitment to invest in and comply with supply chain security standards.

The introduction of a harmonized AEO concept, prior standardized security declarations, and a risk management strategy lays the foundation for mutual recognition of AEO programmes. This means that AEOs do not have to undergo time-consuming accreditation processes in every country again and again, but its accreditation in one country would be valid in the other countries where a mutual agreement is in place with the issuing country.

<sup>&</sup>lt;sup>26</sup> http://www.wcoomd.org/en/topics/facilitation/instrument-and-tools/tools/safe\_package.aspx.

Finally, the SAFE Framework of Standards makes a strong recommendation for governments to apply the latest non-intrusive inspection technology, which can increase security but at the same time help to avoid unnecessary physical inspections and/or damage to the traded goods subject to inspections.

#### **5.2 Simplifications of import and export procedures**

Companies involved in international trade could benefit significantly from several simplifications related to the import and export of goods. According to Transitional Standard 3.32 of the Revised Kyoto Convention (RKC), authorized traders are defined as persons (natural and legal) who meet criteria specified by Customs, including having an appropriate record of compliance with customs requirements and a satisfactory system for managing their commercial records. The status of "authorized trader" provides access to simplified procedures, where Customs reduces the level of controls and relies more on internal controls applied by the trader to ensure compliance with all relevant laws and regulations.

It is important to differentiate between authorized traders as defined in the Revised Kyoto Convention and the Authorized Economic Operator (AEO) as defined by the WCO SAFE Framework of Standards. The focus with Authorized Traders is on trade compliance while AEOs also need to comply with a range of (mostly physical) security standards as laid out in the WCO SAFE Framework of Standards to ensure supply chain security. AEOs receive additional benefits from their voluntary participation in an AEO programme, such as reduced physical inspections, lower risk scoring and participation in mutual recognition programmes. However, to obtain access to simplified procedures, traders do not have to become an AEO. It is sufficient to comply with the requirements laid down for authorized traders.

If well implemented, public entities can benefit from AEO programmes in terms of enhanced trade-tax collection, better use of resources and increased trader compliance. A more efficient and transparent delivery of public services will allow the administration to maintain high security levels and effective government control, while diminishing opportunities for corruption.

#### Legal aspects

Legal counsel must be included to determine legal and/or administrative requirements and constraints that will need to be addressed prior to implementation. For instance, whether Customs has the legal powers to "certify" a company for participation purposes will need to be explored. Customs will need to devise a process and criteria to vet companies that apply for the programme. This can include reviews of compliance records for import/export, any criminal records for a company and its officers, tax compliance, fiscal solvency, safety and security and, finally, a look at its overall business portfolio. A flexible approach should be taken to the needs of Small and Medium Enterprises (SMEs).

The process of suspending and removing companies must be outlined at the start of the programme and available to the private sector for transparency purposes. Additionally, an appeal process must be developed for companies seeking relief. A model appeals procedure has been developed for these purposes by the WCO.

The final step during preparations should be a finalized draft of the programme structure to include clear requirements to join the programme, application process, certification, validation, benefits, removal or suspension and an appeal procedure. Through drafting laws and regulations on AEO, gathering public comments and opinions from relevant bodies, and submission to and deliberation in legislative sessions, laws and regulations are then finalized. Before full implementation of an AEO programme, a sufficient preparation period should be reserved and sufficient Public Relations activities for the private sector should be carried out.

Laws and regulations, as well as guidelines on standards for authorization and revocation of AEO status and benefits, etc. should be open to the public to ensure high transparency and uniform application in a country. It is necessary for Customs to build up its internal system (such as making a common central unit for unified interpretation of AEO laws and regulations) to avoid arbitrary implementation of the AEO programme by customs officers, and to ensure standardized implementation of the AEO programme nationally.

Finally, mutual recognition of AEO programmes is important for the trade community. Investments made by industry to obtain an AEO status are significant, and the costs duplicate for companies trading in more than one country if such programmes do not recognize the present status of the company in another country. Further implementation guidelines on this will follow in session 3 of this module.

#### **5.3 Electronic declarations and automation**

Technological developments have made many domains adopt automation and electronic Customs clearance has become mandatory in many countries. Therefore, one should consider the electronic nature of import and export procedures in their totality as part of the core customs business features.

Effective information and communications technology (ICT) helps considerably to achieve business objectives and drive world-class border agency performance. However, ICT alone offers no magic modernization solutions. Successful ICT is a key feature (among others) that enables modernization and improved performance. The most effective modernization programmes address policy, process, and people issues—and use ICT as an enabler to achieve the mission and vision.

The experiences of border agencies with ICT programmes reveal 12 critical success factors according to the World Bank who have studied, in detail, border management modernization issues. They are:

- An aligned legal and regulatory framework: A modern legal and regulatory basis needs to be in place before any ICT design or implementation. The time needed for regulatory or legislative change can easily exceed the time needed to develop new systems, so it is important that the two overlap. Because regulatory change may have unforeseen outcomes that require new processes, a close relationship between regulators and technologists during this process is desirable (though in practice quite a challenge to achieve).
- Clarity about business outcomes: Business outcomes are not always well described before
  or during ICT programme design, which can result in poor service delivery. Service level
  agreements with key dependent partners and stakeholders should be defined and agreed upon
  as early as possible in ICT programme planning. It is important to align the envisioned business
  outcomes with overall outcomes in the agency's vision and strategy.
- Effective governance: A governance model, setting out the roles and responsibilities of stakeholders, must be established. If the decision-making process and procedures for issue escalation are not established and rigorously followed, a loss of direction can ensue wasting time, raising costs, and delaying the delivery of required benefits.
- **Specific ICT policy issues**: Further ICT policy issues arise with newer border management systems because the systems often involve more than one government agency—each silo with different policies (if any) for such things as security and identity management.
- A robust business case: A clear and agreed business case is often essential to securing the necessary political backing, investment, and resources for an ICT development.
- **Operational aspects:** Have roles and responsibilities been defined and agreed? Has the financing been agreed and secured? The answers to these questions are not available in a clear and detailed manner. If these aspects are not fully covered, the risk is great that it will

lead to unforeseen financial and time constraints, making deployment, operation, and the cost of delivery problematic.

- Business process efficiency: Successful ICT programmes depend on business process
  efficiency. Experience suggests that any programme lacking a complementary project to review
  and align the processes in an organization will generally fail. Without exception, a review of
  existing 'as is' business processes should be made, and result in the required 'to be' business
  processes, so that the new ICT system will, in turn, be designed to enable the new processes.
- Change management: The deployment of an ICT programme brings the users in contact with a new approach, new processes and a new tool. To enable a successful deployment there is a need for change management. A change management programme should consider required changes in behaviour, support the required training and learning, and help with role and job design and restructuring.
- Organization performance: The design and implementation of any new ICT system requires competent and skilled support resources. Organization and human resource management are critical. Success metrics (generally referred to as key performance indicators), need to be determined at the start of a programme and then gathered and monitored during implementation and operation. Regular progress reporting, using concise and accurate measures, must ensure that those who put the programme in place have the right information to make decisions on intervention.
- Interoperability: As effective border management increasingly relies on sharing information and intelligence among border agencies and other stakeholders, interoperability is increasingly required. There is also a growing requirement that ICT systems must allow secure links to other national, regional and international systems.
- **Data privacy and protection**: Privacy and protection become even more important as the demand grows for more data sharing, data reuse, and adherence to national and international data protection legislation.
- Standards and frameworks: Success requires the application of international standards to ICT system design, development, and implementation.

The ICT strategy, design and desired operational performances must be aligned to the strategy and policy of the border agencies. In other words, the ICT projects must tie into the agency's modernization objectives. Clearly, the benefits will vary depending on the national political, economic and financial circumstances and on national priorities.

#### Legal base for electronic transactions

Traditional customs legislation is the result of a historic process. All procedures and forms to be used are described in detail and subject to legal requirements. The legal basis for import and export transactions is quite diverse in most countries and has specific customs legislation which exists—often in primary legislation which contains provisions on the main principles of customs procedures, and secondary detailed provisions which lay down the details of the procedure to be followed. In addition to customs legislation there exist other types of legislation which need to be observed for import and export procedures. These concern commercial law, transport law, veterinary and plant health legislation, intellectual property law, public security and safety law, etc.

At the outset, all these legislative provisions refer to paper documents, which contain the required information for given aspects of an import or export transaction. Therefore, a basic choice will need to be made if electronic transactions will obtain a legal basis by a general law, which addresses the totality of the formalities to be respected at import and export, or whether for each of the given legal provisions an electronic format will be allowed in parallel, or will replace the paper procedure. This task cannot be underestimated in volume and effort of work, nor in time required to complete the legal drafting and adoption procedure. A sound legal basis for electronic import and export transactions is an absolute must for the daily operations.

## 6. Practical measures to facilitate trade at the border

Besides structural measures, several practical measures are available to streamline trade procedures at the border including pre-arrival processing and declarations, post-clearance audits and risk-based procedures. They can have a tangible impact on the efficacy of the overall clearance process. Some measures can be local in reach and relatively inexpensive to implement, but can nevertheless lead to significant results.

#### **6.1 Pre-arrival processing and prior declarations**

Pre-arrival processing requires the submission of the relevant goods and/or cargo declaration data to the relevant authorities prior to the arrival (for import) or prior to departure (for export) of goods. Due to the time-sensitive nature of this concept, the prior declarations and notifications are ideally made electronically. In this way authorities are able to conduct electronic risk assessment, process the declaration and prepare the release decision prior to the goods arriving at the port of entry/port of exit. This approach, where most of the work is done while the goods are still in transit to the border crossing, enables the release of the goods immediately upon arrival—given the conditions that no irregularities were discovered, no suspicions remain and the information was complete and correct. The release decision is communicated immediately to the persons concerned upon arrival, so that they can continue their supply chain and logistics planning.

Depending on the availability of a legal basis and due consideration, the authorities could even provide authorized traders the possibility of obtaining the release of goods prior to their arrival (called pre-clearance). This approach is in line with the WCO Immediate Release Guidelines. In reality, experience shows that a prerequisite for the introduction of pre-arrival processing is the availability of an operational customs automation system that can receive the advance declaration and ensure its processing with the help of an electronic risk-management system.

#### **6.2 Risk Management**

Risk management is defined as the systematic application of management procedures and practices, which provide Customs with the necessary information to address movements or consignments that present a risk. In some countries, Customs still applies a 100 per cent physical inspection regime, causing significant delays at border crossings, ports and airports. Such inspection regimes also create an enabling environment for informal payments to speed up the process.

By analysing and measuring the level of compliance related to individual traders, commodities or trading countries at the national, regional and local level, Customs can identify those cases in which further scrutiny in the form of physical examination and documentary review is necessary and will likely lead to results. By acknowledging the compliance level of a trader—in particular authorized traders and AEOs, leading to a lower inspection rate than that of other less-compliant traders—Customs creates incentives for traders to invest in compliance. In combination with pre-arrival processing of cargo and goods declarations, Customs gains the necessary time for conducting risk assessment and enabling immediate release of the goods upon arrival.

Risk-based selectivity operates more effectively in an automated environment as computerbased, risk-based selectivity can be applied consistently to all imports and exports and is significantly faster and more accurate in comparing a given set of data (e.g. from a goods declaration) against all currently active risk profiles. In addition, information technology (IT) can significantly facilitate keeping all existing risk profiles up to date across the country using the latest clearance and audit results. However, the lack of an IT-based risk assessment and targeting system should be no excuse for Customs not to apply this key trade facilitation principle.

#### **6.3 Post-Clearance Audits**

Post-clearance audit (PCA) or audit-based controls are measures taken by Customs to check the accuracy and authenticity of declarations through the examination of the relevant books, records, business systems and commercial data held by persons concerned. On the contrary, transaction-based controls are those controls applied to each individual shipment at the time of crossing the border (such as physical examination, verification of value, origin and classification of goods, sampling, verification of certificates, licences and permits, etc.).



Figure 2.1 Post-clearance Audit Process

Post-clearance audit allows a for responsible approach, in that it reduces the number of control activities at a border at the time of arrival of goods to only those necessary to determine the admissibility of the goods. It also reduces costs for businesses associated with temporary storage of goods, customs inspections, and downtime of vehicles. This can lead to a significant increase in revenue collection as PCA allows a more comprehensive and holistic evaluation of the particulars necessary for the calculation of duties and taxes.

Administrations that do not use audit-based controls usually concentrate their controls entirely at the border at the time of import, and often apply a nearly 100 per cent physical examination approach. This leads not only to unnecessarily long delays at the border but is also a very ineffective and inefficient use of the limited control and inspection staff at the border. In addition, 100 per cent physical examination creates an enabling environment for corrupt practices. Audit-based controls are a prerequisite for administrations to successfully apply other trade facilitation measures, such as segregation of release and clearance (see session 4), simplified procedures for authorized traders and AEOs, or the WTO valuation rules.

PCA can take the form of supporting transaction-based controls at the border by verifying the classification, valuation and origin of the goods after release through an audit of the supporting commercial documentation such as an invoice. In this way, goods can be released upon arrival (usually against security or guarantee) and clearance be completed and duties paid after the PCA. This segregation of release and clearance is a very important measure to accelerate the movement of goods across borders. Modern Customs administrations may be in a position to grant release and clearance simultaneously upon arrival of the goods, as stipulated in the International Chamber of Commerce (ICC) Customs Guideline # 9 (ICC, 2012).

<sup>(</sup>Source: World Customs Organization)

In addition, PCA can take the form of periodic and cyclic audits, usually at the premises of the importer or trader concerned, where Customs reviews imports over a given period and checks all relevant commercial records, including bank statements and contracts to verify the particulars given in a goods declaration.

PCA requires an enabling environment such as a dedicated PCA organization within Customs, the legal powers to access commercial records and to enter traders' premises, properly trained staff, and the existence and proper application of accounting standards as required by law. Only by following the required accounting standards, will Customs be able to introduce audit-based controls.

#### Post-clearance audit in the Eurasian Economic Union

The EAEU Customs Code favours customs control after the release of the goods as much as possible. A trader will be able to dispose of the imported goods for his own purposes before the completion of the necessary documents verification in a case where he has provided security of payment for customs payments.

According to point 7 of article 310 of the EAEU Customs Code (Conducting Customs Control) the customs control must be carried out before 3 years have passed. The legislation of the member states on customs regulation can establish that post-clearance must also be conducted before 5 years have passed.

In the EAEU, the period of documents storage required for customs control is 5 years after the goods have ceased to be subject to customs control. In fact, this period in Russia is 3 years (corresponds to the statute of limitation). This limit is 5 years in Kazakhstan. A mutual administrative assistance programme is put in place to allow customs to conduct customs control on behalf of the customs authorities of another Customs Union country.

While carrying out post-clearance control, there may be situations when the goods and the final consumer are, for example, in Kazakhstan, and the inspection is carried out by the customs body of the Russian Federation. Without information from Kazakhstan on the final consumption of the goods, it cannot be concluded whether the goods were legally imported and authentically declared. That's why the limit has been increased from 3 to 5 years in Russia, allowing the control to be carried out in any of the countries of the single customs territory of the Union.

Customs inspections remain the main form of post-clearance control. Its main provisions in the EAEU Customs code, in comparison with the Customs code of the Customs Union, will not change. In-house (desk) and onsite (field) audits will continue to be conducted. At the same time, the new code will allow the Customs body to carry out field inspections based on the results of in-house audits. A request from the prosecuting authorities of the EAEU member states and an instruction of one union member state given to another can also be foundations for unscheduled field checks.

#### Figure 2.2 Types of Post-Clearance Audit in the Eurasian Economic Union

1. Verification of documents and information provided during customs operations with the aim of establishing the authenticity of information and documents

- · Comparison with information obtained from other sources
- Analysis of customs statistics (the amount of import and paid customs duties)
- · Processing of received information using Information technologies

2. Accounting for goods under customs control

- Checking the accounting system of goods and reporting for the same period is carried out only
  once
- · Forms and period of reporting are established by national legislation

3. Customs inspection

- It is carried out by comparing the information contained in the documents submitted when placing the goods under the customs procedures and other information available to the customs authorities with the accounting data, with accounts and other available information
- It is carried out by the customs authorities of a member state of the EAEU in respect of audited persons registered in accordance with the legislation of this member state of the EAEU
- Forms: field (planned, unscheduled), in-house.

(Source: The Eurasian Economic Commission)

#### **KEY HIGHLIGHTS**

- The Trade Facilitation Agreement agreed of the World Trade Organization contains a high number of commitments for the facilitation of international trade. This TFA will have a positive impact on the participating countries, but it will also be an important challenge to effectively implement its measures in the coming years.
- The establishment and functioning of a National Trade Facilitation Body is important for the management and streamlining of cross-border trade. The NTFC should be involved in the preparation of new policy, regulations and implementation tools.
- The availability of a complete and up-to-date legal framework is very important. It must be in line with engagements undertaken in the framework of international and regional agreements. International legislation can be an important driver towards the modernisation of border procedures. There should also be compatibility between the legal framework and the operational border procedures.
- Several important developments have taken place in recent years in relation to border management. This includes the concept of Authorized Economic Operator in relation to safety and security of goods entering or exiting the customs territory and, the concept of authorized trader who benefits from simplifications granted after a scrutiny exercise by Customs.
- Information and Communication Technologies are now at the heart of border operations and enable a much more efficient implementation of modern procedures. However, they need to be imbedded in the overall modernization policy and project of border agencies.
- ✓ To keep the above-mentioned innovations in balance, several interesting measures are available. Prior declarations, before arrival of the goods, enable companies to prepare and submit the declarations as and when the information becomes available. This early information allows Customs to screen the declarations in advance and to perform risk analysis in order to select certain consignments for inspections.
- Risk management is a key procedure to address the issue of delay at border crossing. It is based upon the application of risk profiles and risk criteria, adapted to the latest information and developments. Risk management should preferably be applied by means of automated tools in order to avoid undue delays of logistics operations.
- To offset risks induced by shorter timelines, a system of post-clearance audits can be installed. This enables a separation of the release of the goods from the completion of all control measures. It also allows for organized audits in line with a management approved and agreed audit plan.

## **Topics for Discussion**

- Participants are invited to discuss the need for advance security declarations in a landlocked country such as the Kyrgyz Republic. In the discussion, one should also try to distinguish between modes of transport (road, rail and air) or specific circumstances such as small consignments arriving by post or courier services.
- 2. Discuss the importance of the publication of legislation and practical instructions on the internet to enable easy access for the trade community. The participants should try to identify the main challenges in this area, if any.
- 3. Participants will discuss the concept of AEO and authorized trader and the priorities for the country to ensure full AEO implementation.

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#### SESSION 2 IMPORT & EXPORT PROCEDURES AS PART OF TRADE FACILITATION

#### Introduction

Over the last few decades, countries have witnessed that international trade has increased and manufacturing has become more global. The worldwide distribution and sourcing cycles, along with just-in-time and just-in-sequence logistics services and the emergence of e-business, has created pressure on governments to ensure efficient, fast and reliable border-crossing and clearance procedures. Governments started to realize that their export economies heavily depend on efficient import processing; hence the need to have a holistic approach for a more efficient management of end-to-end trade transactions.

Lack of transparency about rules and regulations, redundant and lengthy clearance processes, and multiple documents requirements in different formats and with different data elements increase the cost and time of doing trade. Today these obstacles are posing greater barriers to trade than tariffs and quotas do. Hence, it is more important than ever to achieve trade facilitation to enhance administrative efficiency and effectiveness, reduce costs and time to markets, and increase predictability in global trade.

Implementing trade facilitation programmes certainly has a cost, and facilitation measures need to be prioritized to maximize benefits. However, there are rich opportunities for gains, as documented in many studies and reports produced by international organizations such as the World Trade Organization (WTO), Organization for Economic Cooperation and Development (OECD), World Bank and United Nations. At the macro level, these look at the positive effects on the trading environment and trade volumes. According to the OECD (2011), every extra day required for goods to fulfil import or export requirements, decreases trade by around 4.5 per cent<sup>27</sup>.

# **1.** Why are import and export procedures part of the Trade Facilitation efforts?

Import and export procedures are part of a wider concept of managing the goods and persons which need to cross the border, mainly for commercial reasons. Customs and other government agencies play a pivotal role in the facilitation of international trade. Besides having to efficiently manage the clearance of goods and ensure the security of international cross-border movements of goods, the border agencies also must apply coordinated cross-border management principles to foster cooperation and to coordinate their respective activities. Border formalities must be accomplished with Customs and the other governmental players in both the export and import countries (and often during transit). Therefore, cross-border coordination of government activities within a country and among countries (e.g. through mutual administrative assistance and exchange of relevant information) is vitally important for the free, smooth and unhindered flow of international trade.

The Revised Kyoto Convention (RKC) defines Customs as the "government service that is responsible for the administration of Customs law and the collection of duties and taxes, and which also

<sup>&</sup>lt;sup>27</sup> OECD. (2011). "To what extent are high-quality logistics services trade facilitating"? Trade Policy Working Paper 108, OECD.

has responsibility for the application of other laws and regulations relating to the importation, exportation, movement or storage of goods" (WCO, 2006).

Clearance of goods and conveyances for import, export or transit is a key activity that brings together the various governmental bodies and industry stakeholders involved in international crossborder trade. According to the General Annex to the Revised Kyoto Convention, clearance is defined as the accomplishment of the Customs formalities necessary to allow goods to enter home use, to be exported or to be placed under another Customs procedure. Customs is traditionally the focal point through which clearance and border control is exercised (WCO, 2006).

Goods moving across international borders must sometimes undergo lengthy, complex and difficult administrative procedures in order to be imported to, exported from, or transited through a country or Customs territory. International organizations such as the World Bank keep annual statistics about the performance of countries/governments to manage this cross-border activity, such as the Trading Across Borders dataset as part of the Doing Business report<sup>28</sup>. Differences between countries in clearance times, number of documents required or fees to be paid (official and unofficial ones) have a significantly wide range. For example, while clearing imports goods in Singapore takes a maximum of 4 days, the same process can take up to 92 days in Uzbekistan.

One of the main reasons for the difference is the importance a government places on promoting and facilitating trade in and out of its country for economic and social development, and the extent to which that government is engaged in continuous reform and modernization. Customs often engage in trade facilitation by providing legitimate traders with access to simplified procedures or other facilitative arrangements, such as electronic filing, e-payment or 24/7 online access. There are many general measures for trade facilitation that apply to all five steps of a standard Customs clearance process, whereas process-related trade facilitation measures apply to individual steps of the process—as explained in greater detail in session 4.

Malfunctioning government authorities at a border, particularly Customs administrations, have a strong negative impact on the economic development of a country because they cause, for example, high transaction costs and long clearance times. According to two OECD reports (published in 2011<sup>29</sup> and 2013<sup>30</sup>) on the cost impact of trade facilitation measures, the policy areas that seem to have the greatest impact on trade volumes and costs are advance rulings, information availability, formalities and procedures, and inter-agency cooperation.

If an administration is solely paper-based and decisions are made only at the top with multiple reporting layers, this is a problem to achieve effective public and private services at the border. If rules and regulations are not made public, it is nearly impossible for the trading community to comply with them. The sub-optimal functioning of Customs is often the result of, or in line with, overall government practices in a given country at large. If on top of the imperfections there is a lack of integrity in Customs, then Customs is part of a government/country-wide issue. Countries can situate and compare themselves to neighbouring countries, by cross-referencing and analysing international indexes such as the *World Bank's Doing Business* and *Logistics Performance Index* as well as the *Corruption Perception Index of Transparency International.* While the results date a few years back, it is clear that there is room for improvement in the Central Asian Region.

<sup>&</sup>lt;sup>28</sup> See http://www.doingbusiness.org/data/exploretopics/trading-across-borders

<sup>&</sup>lt;sup>29</sup> See http://www.oecd-ilibrary.org/trade/trade-facilitation-indicators\_5kg6nk654hmr-en

<sup>&</sup>lt;sup>30</sup> See http://www.oecd-ilibrary.org/trade/trade-facilitation-indicators\_5k4bw6kg6ws2-en
In order to make progress, countries should apply international standards and good practices. These are readily available in relevant international instruments such as the Convention on the Harmonization of Frontier Controls of Goods or the World Customs Organization (WCO) Revised Kyoto Convention (RKC). Since its adoption in 1999 by the WCO, the number of countries having become a contracting party, and thus having committed to implement the General Annex with all key provisions for a modern Customs administration, has grown to 112 as of October 2017<sup>31</sup>. The General Annex is obligatory for all contracting parties, while the Specific Annexes (while provisions on individual Customs procedures such as warehousing and transit are optional). Implementation of these key international instruments provides many benefits ranging from higher duty collection to increased competitiveness of the economy. The implementation of the RKC and other relevant instruments requires a strategy-based reform and modernization programme that addresses various aspects of Customs as an institution: the organization, the legal environment, technology and people. Combined with a business-oriented approach in the day-to-day application of these international instruments, such reforms will enable Customs to find the right balance between its two main objectives: trade facilitation and control/security.

# 2. How to improve these import and export procedures

### 2.1 Pre-arrival processing for supply chain security

To ensure a logical order in handling the subjects related to the facilitation of import and export procedures, supply chain security should be tackled first— since the security of supply chains is associated with the arrival and departure of goods. Over many years, international trade and transport networks and infrastructures have been identified as potential targets for international terrorism and cross-border crime. While Customs have always controlled international trade in terms of prohibitions and restrictions, the need to secure the international trade supply chain has put growing and additional burdens on Customs to manage this balance.

In response to this growing challenge, the WCO adopted the SAFE Framework of Standards<sup>32</sup> in 2005 to promote a stronger focus on those principles of the Revised Kyoto Convention that improve cooperation among Customs administrations; provide supply chain security and facilitation at a global level; and promote certainty and predictability. The SAFE Framework rests on two pillars: Customs to Customs networks and Customs to business partnerships. Core elements of the SAFE Framework are:

- harmonizing advance cargo information
- introducing a risk management approach
- outgoing country's customs inspection of high-risk containers by customs authorities
- benefits programme for compliant traders (to be addressed in more detail in the next session)

The SAFE Framework of Standards is a set of recommendations to customs organizations, which include:

<sup>&</sup>lt;sup>31</sup> List of Contracting Parties available at www.wcoomd.org

<sup>&</sup>lt;sup>32</sup> SAFE Framework of Standards to Secure and Facilitate Trade. Available from <u>www.wcoomd.org/-</u> /media/wco/public/global/pdf/topics/facilitation/instruments-and-tools/tools/safe-package/safe2015\_e\_final.pdf?la=en

- integrated Customs control procedures for Integrated Supply Chain Management
- authority to inspect cargo, and use modern technology in doing so
- risk-management system to identify potentially high-risk shipments
- identification of high-risk cargo and container shipments
- advance electronic information on cargo and container shipments
- joint targeting and screening

Many countries have introduced national measures based on the SAFE Framework, and work together through mutual recognition of each other's programmes. In practice this means that safety and security declarations introduced at a national level are based upon international standards, which makes the interpretation and exchange of information obtained easier and more effective (see Module 2, Session 4).

One of the most important SAFE measures is pre-arrival processing that is increasingly converted into an obligatory supply chain security regime—in some cases with time limits prior to the departure of the goods in the country of export. Traditionally, Customs allows importers and their agents to declare the goods only after they have arrived in the country and are presented to Customs. This significantly delays the release process as Customs and the other relevant agencies do not make use of the time afforded (by the sometimes long journey of the goods to the country of importation) for risk assessment and declaration processing purposes.

Pre-arrival processing involves the (electronic) submission of the relevant goods and/or cargo declaration data to the relevant authorities prior to the arrival (for import) or prior to departure (for export) of goods. Authorities are then able to conduct risk assessment, process the declaration and prepare the release decision prior to the goods arriving at the port of entry/port of exit—thus enabling the release of the goods immediately upon arrival. This may include communicating the release decision to the persons concerned so that they can continue their supply chain and logistics planning.

Pre-arrival declaration and processing arrangements are a solution to expedite release. In line with the Revised Kyoto Convention (RKC), Customs shall allow the lodging and registering of goods declarations and supporting documents prior to arrival of goods. As an illustration according to a Time Release Study conducted by Japan Customs (Time Release Study 2009, Japan Ministry of Finance), the time required to release sea cargo in a non-pre-arrival mode was 2.9 days compared to 2.2 days in a pre-arrival mode. In the case of air cargo, only pre-arrival declarations enabled Japan Customs to grant almost immediate release.

At the same time, if Customs sets a time limit for lodging the goods declaration (even in a pre-arrival mode), the time allowed shall be sufficient to enable the declarant to complete the goods declaration and to obtain the supporting documents/information required. The prerequisites for the introduction of pre-arrival processing are the availability of a customs automation system that can receive and process the advance declaration, and a risk management system in place.

## 2.2 Non-Intrusive Inspection Technology

The SAFE Framework of Standards also makes a strong recommendation for governments to apply the latest non-intrusive inspection technology—which can increase security, but at the same time can help to avoid unnecessary physical inspections.

Non-intrusive inspection technology (NII technology) refers to technical equipment and machines such as X-ray or gamma ray imaging equipment that allow for the inspection of cargo without the need

to open the means of transport and unload the cargo. With growing trade volumes and stagnant (if not declining) staff levels at a border, the decision to physically inspect a shipment (containerized or otherwise) can be very time consuming and can affect the overall throughput of a Customs office.

In combination with a coordinated intervention approach, this can help to significantly reduce the number of unnecessary physical inspections and to reduce the time required for these. The WCO SAFE Framework of Standards recognizes the usefulness of NII technology for trade facilitation, and recommends to Customs administrations that non-intrusive inspection equipment should be available and used for



**Figure 2.3** A U.S. Customs and Border Protection non-intrusive inspection vehicle x-rays a line of trucks Feb. 1, 2016. (U.S. Customs and Border Protection Photo by Glenn Fawcett) https://commons.wikimedia.org/wiki/File:160201-H-NI589-

conducting inspections where available and in accordance with risk assessment.

Major NII installations are fixed in buildings, have a very high penetration rate and allow the means of transport to drive through, thus accelerating the process and reducing the overall inspection time. To ensure proper installation and application of such NII technology, the WCO has developed NII guidelines that will help Customs administrations to optimize the use of this technology for the benefit of both control and facilitation. The WCO published the Guidelines for the Purchase and Deployment of Scanning/Imaging Equipment (NII Guidelines) as part of the SAFE package to provide Customs administrations with practical guidance on what to consider when considering purchasing such equipment, and how best to implement the equipment to make best use of the technology.

These guidelines present the different steps Customs administrations should follow for the purchase and deployment of NII technology. The process starts with the definition of the needs, including defining why the NII equipment is required and for what inspection purposes. It covers the procurement process (including a brief summary of the technical specifications of the some of the NII equipment) and the deployment, so that the systems and equipment are duly integrated into the Customs procedures.

#### 2.3 Coordinated Border Management

Besides the streamlining of activities on each side of the border, there is also a need for a coordinated approach by all competent bodies on the same side of the border. Many government authorities have responsibility over the determination of the admissibility of goods into and out of the country, and have set of specific requirements. Besides Customs, the health, agriculture, environment and trade authorities set standards and conduct inspections for plant, animal and food safety, metrological and product safety purposes. Where goods have been selected for physical inspection, the term "coordinated intervention" refers to the need for Customs to coordinate the time and location of such inspections with other relevant government authorities, and with the above mentioned neighbouring Customs administration in cases of joint border controls. Sometimes the coordinated intervention is referred to as a 'One Stop Shop'.

Without coordination for timing and location of physical inspection of goods, traders will be confronted with duplicated controls at different times, and sometimes different locations, which adds significant amounts of time and cost to the overall clearance process. In addition, national safety standards that are not based on available international standards increase the cost of trade due to replicating safety certification requirements.

As stipulated by the Revised Kyoto Convention (RKC) as well as Article 4 of the International Convention on the Harmonization of Frontier Controls of Goods, Customs shall ensure that inspections are coordinated and, if possible, carried out at the same time (UNECE, 1982; WCO, 2006). This means that inspections should be conducted, if possible, simultaneously or with a minimum of delay. All competent services should also ensure that the necessary facilities and staff are available at the place of examination.

As in the case of certain European Union Customs administrations, governments may also consider delegating powers of the competent authorities to Customs to carry out the inspections on their behalf—either in full or in part. This convergence of controls will also require that Customs agencies be provided with the necessary means and training to conduct such inspections. The business community also highly recommends the delegation of all inspection activities to one single authority, preferably Customs, as documented in the ICC Customs Guideline number 20 (ICC, 2012).

With supply chain security remaining an important task for Customs administrations, the concept of coordinated intervention was extended to encompass an entire coordinated border management approach. The concept of coordinated intervention may also be combined with efforts to provide a single access point for the electronic submission of cargo and goods declarations—a so-called Single Window (see Module 3). With this system, Customs and all other relevant border agencies could coordinate and operate a common risk-management approach to optimize the risk assessment and selectivity processes.

As for national safety standard setting, the WTO Agreement on Sanitary and Phytosanitary (SPS)<sup>33</sup> Measures—which is an agreement on how governments can apply food safety and animal and plant health measures—sets out the basic rules. It requires member countries to adhere to international standards such as the Food and Agriculture Organization of the United Nations (FAO) International Plant Protection Convention for plant safety, the World Organization for Animal Health (OIE) for animal safety, and the Codex Alimentarius for food safety.

The WTO Agreement on Technical Barriers to Trade<sup>34</sup> encourages member countries to follow a code of good practice and set rules which are fair and equitable. The Technical Barriers to Trade (TBT) Agreement aims to ensure that technical regulations, standards, and conformity assessment procedures are non-discriminatory and do not create unnecessary obstacles to trade. At the same time, it recognizes WTO members' right to implement measures to achieve legitimate policy objectives such as the protection of human health and safety or protection of the environment. The TBT Agreement strongly encourages members to base their measures on international standards as a means to facilitate trade. Through its transparency provisions, it also aims to create a predictable trading environment.

#### a) Opening and business hours

Opening/business hours of Customs offices are those times determined by the Customs at which Customs and other relevant border agencies normally accept goods declarations and perform clearance activities such as physical examinations, collection of duties and taxes and release of goods

<sup>&</sup>lt;sup>33</sup> See <u>https://www.wto.org/english/tratop e/sps e/sps e.htm</u>

<sup>&</sup>lt;sup>34</sup> See <u>https://www.wto.org/english/tratop\_e/tbt\_e/tbt\_e.htm</u>

and conveyances. In addition, in an automated environment, opening/business hours also refer to the times when the IT system is operational and accessible for electronic declarations.

Opening/business hours of Customs offices at the border, ports, airports and inland have a critical influence on the management of international supply chains. Even in an e-enabled and increasingly paperless environment, international trade deals with the physical flow of goods in addition to the (electronic) flow of information.

Opening/business hours can have a strong negative impact on international trade if they are not set in consultation with the trading community and, in cases of land border crossings, if they are not coordinated with the corresponding Customs office of the neighbouring country. For example, if the Customs office at a major airport operates between 8am and 5pm, but the bulk of cargo planes arrive between 8pm and 10pm then Cargo from these flights will have to wait until the next day before it can be released and delivered to the market.

According to the Revised Kyoto Convention (RKC), Customs shall consider the requirements of the trade when determining the opening hours and, at common border crossings, correlate them with the neighbouring country. Customs should also provide the possibility of clearing goods outside designated business hours (for a fee). In cases of submitting cargo and goods declarations in electronic form, Customs should operate their IT systems 24/7, with only minimal down time for occasional maintenance purposes. As part of regular and formal trade consultations, Customs should regularly review the appropriateness of existing opening/business hours. In cases of juxtaposed Customs offices (located on each side of the same border crossing), Customs at both sides of the border should coordinate their opening/business hours through regular bilateral consultations.

It is also of paramount importance that any changes to opening/business hours either short-term or long-term, are duly communicated to the trading community. Ideally, the required information should be available in an up-to-date status on the public website of the Customs administration with clear indication of the name of each office, its details, opening hours, contact details, competences and electronic services available.

#### b) Joint controls

Joint border controls refer to the concept of two neighbouring Customs administrations entering into an agreement to operate Customs control jointly (i.e. to coordinate export and import controls, opening hours and competences). Ideally, joint controls are conducted in juxtaposed Customs offices where physical and technical infrastructures are shared. At land-border crossings, traders often must undergo export formalities before they can accomplish the import formalities. In addition, the physical infrastructures of the export and import offices are often significantly different. This can lead to long border queues and clearance processes, particularly if inspections take place at both the export and the import side and competences and opening hours of the two Customs offices are not coordinated. For perishable commodities, this can lead to economic loss of the cargo.



**Figure 2.4** A Common border crossing between Germany and Poland (prior to Poland's accession to the EU); Source: German Customs

The physical state of the border crossing is often a reflection of the relationship between two countries. A prerequisite is therefore to establish fruitful and trusted relationships among neighbouring countries. On this basis, the operation of joint Customs controls and the establishment of juxtaposed Customs offices at common border crossings, as stipulated by the Revised Kyoto Convention (RKC), will help to streamline the clearance process, eliminate redundancies and strengthen Customs control capabilities.

The RKC requests Customs administrations to coordinate opening hours and their respective competences to ensure a smooth and unhindered throughput at the border. In addition, the two countries should coordinate the physical layout of the border crossing in terms of the number of lanes, transit lanes, parking lots and other relevant facilities in accordance with Art. 6 of Annex 8 of the International Convention on the Harmonization of Frontier Controls of Goods (UNECE, 1982). This requires the two countries to enter into negotiations on a bilateral agreement or treaty that will provide, among others:

• a legal basis for the budgetary commitments of the two countries to establish and maintain joint facilities and division of costs,

• definition of the border line,

• a legal basis for the officers from each country to exercise law enforcement measures (e.g. penalties, seizures, arrests) on the other country's territory within the limits of the joint Customs office, including cases of hot pursuit.

Ideally, the treaty should also establish regular bilateral consultations at the local, regional and national levels to discuss operational and policy matters.

## 2.4 De Minimis scheme

The ICC Customs Guideline number 11 defines "de minimis" as "...a valuation ceiling for goods, including documents and trade samples, below which no duty or tax is charged and clearance procedures, including data requirements, are minimal" (ICC, 2012). The preparation, submission, processing and retaining/storing of cargo and goods declarations (paper and electronic) are very costly processes, both for industry and an administration. This cost is the same for processing dutiable high-

value shipments as for non-dutiable or low-value shipments. Where the value of the goods and their respective amount of duties and taxes is lower than the cost to administer this shipment (small consignments), governments spend more money on this administrative process than they collect in duties and taxes. Often, however, governments need to consider (besides the cost of duty collection) the competition between small consignments imported with duty relief and goods sold on the domestic market with applicable duties and taxes.

The Revised Kyoto Convention (RKC) acknowledged the e-commerce trend of increasing numbers of small consignments and included a provision on 'de minimis' values. Customs administrations shall specify a minimum value or minimum amount of duties and taxes below which no duties and taxes will be collected. Consequently, documentary requirements are minimal for goods on which no duties and taxes will be collected. Administrations that have implemented a de minimis regime also apply the Immediate Release Guidelines (see Session 4), which provide for immediate release on the basis of a consolidated declaration that can be a manifest, waybill, cargo declaration or inventory of such items.

Determination of the appropriate de Minimis values should be based on research, taking into account national circumstances and international good practice. ICC released a Policy Statement on Global Baseline De Minimis Value Thresholds in February 2015 in which the world business community underlined that raising de Minimis thresholds would provide significant benefits to businesses of all sizes. Setting a meaningful de Minimis level will most notably have a positive impact on small and medium-sized enterprises (SMEs) and offer opportunities for increased e-commerce. ICC recommends establishing a global baseline de Minimis value of at least US\$ 200 to generate economic benefits by refocusing public revenue collection on more efficient revenue sources—boosting the global economy and enhancing job creation (ICC, 2012). Some countries, such as the USA and Australia, have higher de Minimis values in view of the cost of duty collection calculated.

According to the Immediate Release Guidelines, Customs shall ensure that information regarding the de Minimis values is readily available—preferably by publication on the internet. Where practicable, de Minimis threshold values and/or amounts should be stipulated in national legislation. Customs administrations should carry out regular reviews of the value or duty and/or tax payable below which no duties and taxes will be levied, taking into consideration inflation and the need to simplify the processing of low-value goods. In determining the value of these consignments, transport costs may be excluded.

#### 2.5 Electronic payment of duties and taxes

Electronic duty/tax payment refers to the use of e-payment methods such as credit and debit cards, electronic funds transfer or online payments for the settlement of duties, taxes and fees associated with the clearance formalities of goods declared for import or export.

Without a choice of methods for making payment for duties, taxes and fees associated with the import, export and transit of goods across international borders by electronic means, the majority of payments would still be made in cash. Depending on the value of the goods and the duty rate, the amount of duties, taxes and fees to be paid can be substantial. This poses a heavy logistic burden on the trader in terms of making the cash available and ensuring the secure transport of the cash. Most importantly, however, cash payments provide an enabling environment for corruption, as they require a face-to-face encounter between the trader/broker and Customs for handing over the cash, making it difficult to differentiate between cash payments for duty collection or cash payments for "facilitation fees".

Customs administrations should seek to cooperate with commercial banks to leverage existing or develop electronic solutions fit for duty/tax payment purposes. The amounts to be paid can be substantial (depending on the value of the goods and the duty/tax rates) so it is essential that the

payment charges are reasonable and do not present an unnecessary burden or discouragement for their use.

The Revised Kyoto Convention (RKC) requires Customs administrations to specify the methods of payment allowed for duty/tax payment purposes by national law. The Guidelines to this RKC Standard strongly recommend that Customs should accept payment of duties and taxes in forms other than cash, such as money orders, certified and uncertified cheques (in specified circumstances), bonds, credit cards, securities, etc. The Guidelines also strongly encourage the use of electronic funds transfer as an important method for quick and efficient payment. As part of the overall corporate integrity programme and as part of their automation developments, Customs should also consider using Electronic Data Interchange (UN/EDIFACT or XML messages) to expedite the entire payment process, including providing an official receipt of payment. It is also recommended that automated systems be configured in such a way as to minimize opportunities for the inappropriate exercise of official discretion, face-to-face contact between Customs personnel and clients, and the physical handling and transfer of funds.

With the emergence of e-government programmes making all relevant administrative services available over the internet, online payment methods were required. As part of these e-government programmes, e-payment platforms were developed to enable all government entities to leverage such a platform without having to develop their own e-payment platform. These e-payment facilities have become a cornerstone in any Single Window programme (see Module 3) as they provide a tremendous trade facilitation measure to offer the payment of all duties, taxes and fees associated with a given import, export or transit transaction in a single payment across all border agencies, thus accelerating the release process.

#### 2.6 Using information systems and electronic documents

As stipulated by Standard 3.16 and Transitional Standard 3.18 of the Revised Kyoto Convention (RKC), Customs shall limit the documents required to those necessary for Customs control and compliance purposes, and shall allow the lodgement of these documents by electronic means. Standard 3.19 of the RKC requires that translations shall not be required, unless necessary for processing the goods declaration. Rather than converting paper documents into electronic files (e.g. by scanning), the current trend is the dematerialization of supporting documents. This means either eliminating a document that has proven to be no longer required, or replacing it with an electronic equivalent at source.

The Eurasian Economic Union (EAEU) Customs Code establishes the use of electronic documents for all customs formalities as a priority. Thus, documents and information required for the performance of customs operations <u>may not be presented to the customs authority</u> *if they can be obtained through the information systems of customs authorities and information systems of state bodies of the member states in the framework of information interaction* (paragraph 2, Article 80 of the EAEU Customs code) (EAEU, 2018).

Individual customs operations may be carried out by customs authorities through the information system of customs authorities without the participation of customs officials – automatic release of goods (paragraph 3, Article 82 of the EAEU Customs code). The figure bellow illustrates customs operations, whose fulfilment requires usage of information systems and electronic documents according to the EAEU Customs Code.



Figure 2.5 Customs operations, requiring the use of information systems and electronic documents

Customs operations	Features associated with the use of ICT
Arrival	The carrier must notify the customs authority on arrival by submitting documents and information or a document containing information on the registration number of the preliminary information in electronic format.
Departure	With the permission (formalized electronically) of the customs authority, departure is carried out.
Temporary storage	Submission of documents and information or a document containing the registration number of preliminary information in an electronic document
	Submission of documents can be carried out electronically.
Customs declaration	Customs declaration is carried out electronically (except for a few cases)
Release of goods	Release of goods (release refusal, release cancellation) <i>is formalized electronically</i> (in an electronic document) or by marking the paper version of the customs declaration.

# 3. Formal Trade consultation

Formal trade consultations are regular meetings of Customs administrations with representatives of local, regional and countrywide trading and transport communities to discuss new developments and problem areas with a view to increase the efficiency and effectiveness of Customs processes and procedures. Such consultations need to properly engage the business community, whose needs may well differ from the needs of Government Agencies. Trade facilitation laws and

regulations, if drafted in absence of a consultation with trade, could lack the vitally important balance between trade facilitation and control, resulting in a negative impact on the economic and social development of the country.

Formal consultative relationships with the trade are required by Standard 1.3 of the Revised Kyoto Convention. As described in the ICC Customs Guidelines, particularly Guideline 29 on trade consultation, the ideal solution is a formal consultative committee representing all major trade partners, including exporters/importers, agents, banks, carriers and insurers (ICC, 2012). The role of such committees typically includes the discussion of projected changes in control requirements, identification of difficulties experienced by declarants in complying with actual or proposed procedures, and arriving at mutually acceptable solutions. In addition, some Customs administrations have introduced the idea of "client-coordinators" who keep contact with individual companies. For the Customs administration, such collaboration has the advantage of improving its knowledge of trading practices. Greater familiarity with the conditions of international trade means more effective risk management. This committee should also arrange for ad hoc seminars, workshops and conferences on subjects of special interest.

The consultative committee should be managed by Customs, but it is possible to have cochairs, one from Customs and one from the business side. Where possible, export development agencies, port authorities or Chambers of Commerce should play a vital role and, in some cases, may operate the Customs consultative committee, usually with full support of the Customs administration.

The outputs of this consultation mechanism should be part of the wider national strategy by ensuring effective participation and contribution to the National Trade Facilitation Body's activities. This can take the form of a working group inside the National Trade Facilitation Body (NTFB) to represent and support the interests of Customs and the business community to facilitate import and export procedures at the national level.

# 4. Publication of official information

Free access to information about the legal framework and procedures in place is a critical element in establishing a transparent and predictable environment for international trade and for improving Customs compliance. Publication of relevant laws and regulations, as well as any changes to these, must be published in good time, prior to entry into force. This information needs to be diffused by various means and include publication on the internet.

Where laws and regulations about import, export and transit of goods are not made readily available and easily accessible, people trying to complete Customs formalities will face difficulties in complying with these regulations. Also, if laws and regulations are changed without informing those directly affected by the changes, this provokes noncompliance for which the persons affected will be penalized. The importance of publishing trade information is highlighted in many international agreements, such as the Revised Kyoto Convention and the GATT<sup>35</sup>. Article X of the GATT specifically addresses this point and the generic rules of Article X have been further elaborated in the WTO Agreement on Trade Facilitation.

The Revised Kyoto Convention (RKC) requires Customs administrations to make readily available all relevant information of general application (such as Customs laws and regulations, forms, and tariffs). Ideally, this information should be on the internet, as almost every administration of the

<sup>&</sup>lt;sup>35</sup> See <u>https://www.wto.org/english/docs\_e/legal\_e/gatt47.pdf</u>

ministry responsible for Customs has a public website. The WCO recommendation on use of the worldwide web provides a useful reference point for the type of information to be made available on the internet, including the use of a least one international language. It is of utmost importance that any such information is accurate and authentic. Increasingly, Customs administrations operate call centres which act as central enquiry points for information.

In addition, the RKC also requires Customs to make changes to laws and regulations readily available sufficiently in advance of the entry into force of the changes to enable interested persons to take them into account, unless advance notice is precluded. It is also recommended that Customs administrations consult with economic operators to receive feedback on the proposed changes and thereby help to reduce the impact on trade and business. Such consultations could be part of formal trade consultations.

## Case study 1

## Pre-arrival processing in the Eurasian Economic Union

Article 11 of the new Customs Code of the Eurasian Economic Union (hereafter, EAEU CC) provides the possibility for the pre-arrival information to be presented in the form of electronic documentation. To implement these requirements a pilot project has been initiated called "Documents ahead the goods movement"

The special information systems "ASTRA" and "Customs-Broker Centre" (CBP) Portal are used for this purpose. The CBP is the single authorized customs broker of the "Russian Railways" (JSCo RZD) since 2008. The centre is present at all railway border checkpoints of JSCo RZD and port railway stations. This is an example of B2B Port Community System development for Customs formalities at the border and customs transit for international rail freight. The purpose is to reduce time for:

1) commercial and shipping documents processing;

- 2) pre-arrival information;
- 3) preparing of customs declaration for customs transit;
- 4) customs clearance for customs transit.

The idea behind this project is: documents are provided prior to the import of goods into the customs territory of the Eurasian Economic Union. The submitted documents are analysed to determine if the data in the documents is sufficient, accurate and compliant with the requirements of customs and other legislation regulating cross-border trade. The goods are transported to the customs territory of the Eurasian Economic Union only after all the analysis and recognition of documents is done.

As a first step of this pilot project, it is proposed process documents sent by the project participants from China and Mongolia (in any convenient format i.e., xls, doc, xml, pdf). Based on the information received the "pre-arrival information" e-document is prepared and submitted to Customs.

The portal accepts scanned copies of the documents, files, MSWord, Excel, .xml. Future plans include moving on to the cross-border docflow with an electronic signature supported by authorized third-party services. The e-document for the pre-arrival information may contain the data elements sufficient to:

- ensure compliance with the prohibitions and restrictions on import of goods into the customs territory;
- accomplish the customs operations connected with the arrival of goods in the customs territory;
- release the goods under the customs procedure of customs transit.

If the e-document for the pre-arrival information is presented, containing the listed data elements, there will be no need to present transport and shipping documents on paper. The pre-arrival e-document for the pre-arrival information will make it possible to reduce some of the operations that are being carried out nowadays, and will significantly speed up formalities at the check point while maintaining due government control.

# Case study 2

## Coordinated border management of the Belarus Customs Service

Coordinated border management (CBM) is a coordinated approach for border control agencies (both national and international) that carry out control at the state border, aimed at improving the management of trade flows (and the flow of passengers) and maintaining a balance between the requirements for compliance. An example of such an approach is the so-called "Belarusian experiment" at the Kozlovichi automobile customs checkpoint.

Goal of the experiment	To reduce the vehicles' average time spent of at checkpoints and to implement the "single window" principle, the customs authorities assigned certain duties to the border-guard service:	
	<ul> <li>checking documents before leaving the Republic of Belarus and (or) entering the Republic of Belarus;</li> <li>control over compliance with the rules for the stay of foreign citizens and stateless persons in the Republic of Belarus, their transit travel;</li> <li>sanitary-quarantine control as part of the visual inspection of individuals and, if necessary, questions on their health;</li> <li>check the availability of civil liability compulsory insurance of vehicle owners</li> <li>check upon entry to the territory of the Republic of Belarus documents confirming the existence of a compulsory medical insurance valid in the territory of the Republic of Belarus (for foreign citizens and stateless persons who are allowed visa-free entry to the Republic of Belarus).</li> </ul>	
Experimental results	1) With an increase in cargo traffic by 21% compared to the same period in 2016, the average time spent on vehicles at the border crossing point was reduced by 37%. For this, one officer conducted customs and border control, which, in practice, conformed to the principle of a "single window". At the same time, the list of border and customs control operations for one person, and the vehicles moved by him remained unchanged	
	2) Reduced the waiting time for the drivers (to start control operations) at the checkpoint during the experiment was made possible	
	3) During the implementation of the experiment, customs officials informed the border guards about criminal acts in 76 cases.	
Conclusion	With the task set, customs officials coped without lowering the basic performance indicators of the checkpoint. The approach to optimize the functions of the customs body and the Border Service, implemented during the experiment, was approved by the Head of Belarus.	
Scaling up the experiment	Currently, the project is being implemented on a permanent basis at the Kozlovichi road checkpoint and at the Gudogai checkpoint at the Molodechno railway station and at the Bigosovo checkpoint at the Polotsk railway station.	

## **KEY HIGHLIGHTS**

- The primary goal of trade facilitation is to help make trade across borders faster, cheaper and more predictable, while ensuring its safety and security. This can be achieved by improving cross-border management and supply-chain security.
- Pre-arrival processing allows authorities to conduct risk assessment and prepare the release decision prior to the goods arriving at the port of entry/port of exit, thus enabling the release of the goods immediately upon arrival. Many countries have introduced such national measures, based on the SAFE Framework, and work together through mutual recognition of each other's security programmes.
- Non-intrusive inspection technology such as X-ray or gamma ray imaging equipment can give a quick insight into the cargo load of a container or means of transport without the need to open and unload it, thus either confirming or resolving the risk assessment.
- Opening/business hours of Customs offices at the border, ports, airports and inland have a critical influence on the management of international supply chains. Even in an e-enabled and increasingly paperless environment, international trade deals with the physical flow of goods in addition to the (electronic) flow of information.
- Without coordination of the timing and location of the physical inspection of goods, traders will be confronted with duplicated controls at different times (and sometimes different locations). This adds significant amounts of time and cost to the overall clearance process. Also, national safety standards that are not based on available international standards increase the cost of trade due to replicating safety certification requirements.
- Setting a meaningful de Minimis level will most notably have a positive impact on small- and medium-sized enterprises and offer opportunities for increased e-commerce.
- Customs administrations should seek to cooperate with commercial banks to leverage existing or develop electronic solutions fit for duty/tax payment purposes. The amounts to be paid can be substantial (depending on the value of the goods and the duty/tax rates), so it is essential that the payment charges are reasonable and do not present an unnecessary burden or discouragement for their use.
- Free access to information about the legal framework and procedures in place is a critical element in establishing a transparent and predictable environment for international trade and for improving Customs compliance.
- Publication of relevant laws and regulations, as well as any changes to these, must be published in good time prior to entry into force. This information needs to be diffused by various means and include publication on the internet.
- Without formal consultations with the trade community, Customs will not be able to adapt regulations and take into account the needs of the business community. Consequently, such laws and regulations could lack the vitally important balance between trade facilitation and control, resulting in a negative impact on the economic and social development of the country.

# **Topics for Discussion**

- Discuss what the possibilities and/or problems are in introducing coordinated border management at the Kyrgyz land borders.
- Discuss which practical measures could be implemented as a priority. What would be the first steps? Think about publication of legislation and guidelines, trade consultation of legal proposals, training offers, etc.
- Discuss current security measures and possibilities for mutual recognition with neighbouring countries or major trade partners.

# **Resources** (Module 2: Session 2)

Asian Development Bank Time Release Studies in ASEAN <a href="https://www.adb.org/projects/50251-001/main">https://www.adb.org/projects/50251-001/main</a>

# World Bank (2011). Border-management-modernization

https://openknowledge.worldbank.org/handle/10986/2544

# WCO Time Release Studies

http://www.wcoomd.org/en/topics/facilitation/instrument-and-tools/tools/time-release-study.aspx

WCO (2008). Strategy on Customs in the 21st Century

http://www.wcoomd.org/~/media/wco/public/global/pdf/topics/key-issues/customs-in-the-21stcentury/annexes/annex\_ii\_en.pdf?la=en

WCO Case Study The use of the Time Release Study to measure border performance in a landlocked developing country (Uganda) <u>https://www.oecd.org/aidfortrade/47799918.pdf</u>

WTO Sanitary and Phytosanitary (SPS) Notification and Management System <a href="https://www.wto.org/english/tratop\_e/sps\_e/spsims\_e.htm">https://www.wto.org/english/tratop\_e/sps\_e/spsims\_e.htm</a>

WTO Technical Barriers to Trade https://www.wto.org/english/tratop\_e/tbt\_e/tbt\_e.htm

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http://www.eurasiancommission.org/en/act/tam\_sotr/dep\_tamoj\_zak/SiteAssets/Customs%20Code%20 of%20the%20EAEU.pdf.

GATT secretariat (1994). General Agreement on Tariffs and Trade. Geneva. Available from <a href="https://www.wto.org/english/docs\_e/legal\_e/gatt47.pdf">https://www.wto.org/english/docs\_e/legal\_e/gatt47.pdf</a> (paste link into browser)

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OSCE and UNECE (2012). Handbook of Best Practices at Border Crossings – A Trade and Transport Facilitation Perspective. Vienna and Geneva. Available from <a href="https://www.osce.org/eea/88238?download=true">https://www.osce.org/eea/88238?download=true</a>

UNECE (1982). International Convention on The Harmonization of Frontier Controls of Goods, Geneva. 12 October. ECE/TRANS/55/Rev.2. Available from https://www.unece.org/fileadmin/DAM/trans/conventn/harmone.pdf.

WCO (2006). The International Convention on the Simplification and Harmonization of Customs Procedures (Revised Kyoto Convention). Brussels. Available from <u>http://www.wcoomd.org/en/topics/facilitation/instrument-and-</u> tools/conventions/pf\_revised\_kyoto\_conv.aspx

WCO (2011). Guidelines for the procurement and deployment of scanning/NII Equipment. D/2010/0048/10. Available from <a href="http://www.wcoomd.org/en/topics/facilitation/instrument-and-tools/tools/~/media/40E1B23E988B489492206C1D1BE93793.ashx">http://www.wcoomd.org/en/topics/facilitation/instrument-and-tools/tools/~/media/40E1B23E988B489492206C1D1BE93793.ashx</a>

# **1. Implementation of Authorized Trader Schemes**

If traders who regularly import or export cargo and who have a good compliance record and bookkeeping system in place are treated in the same manner as traders who do not comply, they are penalized rather than rewarded for their compliance and corporate citizenship behaviour. This has a negative impact on the cost of trading as well as on the cost of administration, as Customs allocates too many resources to low-risk traders. Instead, such low-risk traders should be offered special and simplified treatment as incentives for compliance. This session will focus on how to implement such programmes and their requirements.

#### **1.1 Authorized trader and AEO definitions**

'Authorized Traders' are defined, according to the Revised Kyoto Convention (RKC), as persons (natural and legal) who meet criteria specified by the Customs, including having an appropriate record of compliance with Customs requirements and a satisfactory system for managing their commercial records (WCO, 2006). The status of "authorized trader" provides access to simplified procedures, where Customs reduces the level of controls and relies more on internal controls applied by the trader to ensure compliance with all relevant laws and regulations.

It is important to differentiate between Authorized traders as defined in the Revised Kyoto Convention, and the Authorized Economic Operator (AEO) as defined by the World Customs Organization (WCO) SAFE Framework of Standards (WCO, 2015). The focus with Authorized Traders is on trade compliance while AEOs must also comply with a range of (mostly physical) security standards, as laid out in the WCO SAFE Framework of Standards, to ensure supply chain security. AEOs receive additional benefits from their voluntary participation in an AEO programme, such as reduced physical inspections, lower risk scoring and participation in mutual recognition programmes. However, in order to obtain access to simplified procedures, traders do not have to become an AEO, but it is sufficient to comply with the requirements laid down for authorized traders. Customs can combine both programmes to ensure consistency and clarity in these programmes. For example, the AEO programme of the European Union consists of distinct AEO statuses: "AEO - Simplification" (corresponding to an "authorized trader" and provides access to simplified procedures); "AEO -Security" (providing a better risk score, lower inspection rates and participation, for example, in the mutual recognition programme of the European Union with the United States, China, Japan and Canada); and "AEO - Simplification and Security" (combining both certificates, meeting both requirements and obtaining both sets of advantages).

## **1.2 How to implement an AEO SAFE package?**

#### a) Preparing an enabling environment

Authorized trader programmes require a supporting environment that defines the conditions under which a company can qualify for authorized trader status and the privileges that are granted by the Customs administration. One such pre-condition is the existence and proper application of the accounting standards on which companies keep their records (e.g. the International Financial Reporting Standards). In following such accounting standards, Customs will be able to introduce audit-based controls that are essential for any authorized trader programme. Customs will also require a risk management programme to be in place based on which the trustworthiness of traders can be weighted, and a specific risk-scoring assigned. This risk scoring will assist in selectivity, for example, at import and for audit-based controls. Depending on the degree and maturity of implementation of accounting standards and audit-based controls, authorized trader regimes as defined in the Revised Kyoto Convention, can relate to:



- release of goods on the provision of minimum information,
- clearance of goods at the declarant's premises,
- periodic declarations,
- trader self-assessment, or
- local clearance.

A request for simplifications can either be treated on a case by case basis or a general certificate of authorized trader can be issued. The difference in practice is that for a case by case handling of requests, all aspects are evaluated and will in the end lead to either an authorization for the requested simplification or a refusal. In the general approach, an evaluation is done of all general criteria such as absence of fraud and repeated infractions, financial soundness, professional knowledge, and experience which leads to a certificate of trusted trader (or its refusal). For each type of

specific authorization requested, only the aspects related to that request will be considered. For example, a request by an authorized trader to open a customs warehouse will most probably only have an evaluation of the physical separation of the goods (wall, doors and locks, fences, etc.) and no more on the financial or professional criteria, which have been met before.

It is good practice that the status of authorized trader and the specific authorizations have a limited duration in time. After a given period (e.g. 2 years) the authorizations should be reassessed. If during the period of validity important changes occur (discovery of fraud, financial difficulties, etc.), then the possibility must exist to suspend and/or revoke the given status and authorizations.

#### b) Internal process, commitment and political will

For this programme to succeed, political will is essential as it requires funding and resources to ensure the necessary support for the programme's inception. Early engagement of ministries that cover border activities will greatly reduce development and implementation problems later.

Once commitment to the development of an AEO programme has been made, the next step is to form a working group (including a high-level manager, trade compliance officer, customs field officer, and legal counsel from Customs, human resources representative, and others that might have valuable input). This working group's purpose will be to develop the overall strategy and vision for the programme. They will also develop the infrastructure (taking into consideration the WCO SAFE Framework of Standards to secure and facilitate global trade), the pilot project, and report the results to the Director General of Customs.

Mutual Recognition of AEO programmes represents one of the principal goals of the WCO SAFE Package. Gradually, Mutual Recognition programmes are coming on stream but it should be recognized that a fully-fledged national AEO programme, not a pilot, needs to be in place and operational before mutual recognition can be considered.

In case of membership in a Customs Union (such as the Eurasian Economic Union) there are exceptions to this because of a regional approach where all participating administrations (member at the time of decision-making) had a say in the development of the programme. Countries joining the

Customs Union normally take over the acquis at the moment of joining. There is also the possibility that bilateral agreements were reached early in the process by two or more administrations, generally by synchronizing their process. In such cases, the working group will have to carefully review the "AEO standards and guidelines" section in the SAFE Guidelines, and study other administration's programmes, to ensure compatibility.

An AEO programme can go beyond entry of goods to also include exportation and exit of goods. Customs must have national legislation that gives it the authority and competences to control exportation. This will be necessary to provide assurances to the receiving administration on the safety and security of goods arriving from a country that operates such an export/exit scheme, in order to extend benefits to the trade.

A comprehensive and effective computerized risk-management programme that will enable Customs to distinguish AEO cargoes from numerous import/export declarations and provide reduced inspections and random exams will be essential in delivering benefits to AEO members. AEOs will have a profile of their own, since risk scoring and identifying members of other AEO programmes will become essential to such a programme. In addition, an integrity programme will diminish any corruption concerns that might negate the establishment of a programme.

#### c) Cooperation with Trade

A dialogue with the business community should be established, where the general idea of an AEO programme should be presented and discussed. The working group in charge of AEO will work with the trade community to form a joint committee to consider private sector participation and advise Customs on trade issues. In the beginning, these two separate bodies can work separately to address distinct, but necessary, concerns and come together to review progress and assist each other. Both groups should frequently (and jointly) inform the stakeholders through public forums and other appropriate communication mechanisms such as a website dedicated to the project, leaflets/booklets or news bulletins. If the administration has chosen to use a pilot, once the pilot begins these two groups will begin to operate as one.

Customs should try to attract companies responsible for the major part of revenue collected. Gaining compliance and membership of those companies from the very beginning will secure revenue, support and positive reinforcement within the trade community. Equally, if their experience is a negative one, they can give the programme a bad reputation.

It is important to note that the programme requirements need to be adapted for small and medium enterprises (SMEs). Their resources do not always allow them to benefit from the status. According to WCO, the benefits can be more concrete and can include "…a reduced data set for cargo release, expedited processing and release of shipments, a minimum number of cargo security inspections, priority processing by customs during periods of elevated threat conditions or following an incident requiring the closing of a port and/or borders. Etc." <sup>36</sup>

#### d) Monitoring and evaluation

The evaluation and monitoring phases of the entire AEO programme (accreditation, control programme, IT usage/support, legislative constraints, benefits, Time Release Study) should be

<sup>&</sup>lt;sup>36</sup> WCO SAFE Package, AEO FAQ for SMEs (WCO, 2010b)

determined, and all benefits given to companies should be monitored. Maintaining records of benefits and the impact of these benefits will assist Customs later to anticipate benefits to industry.

The following implementation steps appear in AEO Implementation Guidance (WCO, 2010a). Determine the need for:

- training and (depending of the function) type of training activities that gradually will be needed throughout the organization (for instance allocating a sufficient number of staff with experience in the area of Post-Clearance Audit (PCA), risk analysis, compliance and enforcement to support the timely development of the project)
- recruitment to deploy new skills, or
- hire experts temporarily and plan how to retain or institutionalize their knowledge within the
  organization (Customs should always attempt to gain this internal knowledge so as to continue
  a process of professionalizing the service.)

Evaluate and monitor:

- accreditation approach
- benefits/facilitations being provided
- control programme
- cooperation with other stakeholders
- legislative and or other legal and administrative constraints

Pilot or real operations should be expanded by allowing more operators and/or sectors available to take part in the scheme. If SME were not part of the inception phase, consider bringing them in since errors that might be costly to them should, at this point, be fixed. Allowing entrance to all interested entities into the programme requires human and financial resources to meet the needs of the members. This programme should never over promise. Taking it step by step will lead to credibility.

Every six months for the first year, evaluate the programme to discover problems or issues that must be addressed or fixed. Mistakes will happen, that is not a negative, but an opportunity for installing improvements. Not learning from those mistakes or correcting them as soon as possible can lead to further problems.

#### e) Important points for Customs to note

- Customs will have to carry out a proper audit; even if they know the company, the AEO status should never be given automatically.
- Customs should take existing audit reports/authorizations given to the trader into account when assessing compliance to speed up the authorization and audit process. This is important for trade, as well as Customs, in terms of saving money and time
- Customs should work in a partnership approach with companies.
- Customs should always verify physically (this means at company premises, not only paper-based evaluation) whether the self-assessment the trader provided is accurate.
- Customs should take into account, where appropriate, compliance with other existing certifications (ISO, C-TPAT or other AEO-qualification, ISPS Code) - this avoids duplication of checks and can facilitate the process.
- Customs does not necessarily have to visit all premises if the audit of three satisfies that all conditions are complied with (saves burden/money/time for both trade and customs).
- Customs should appoint client coordinators or contact points for companies so that each AEO can receive information through one contact point or a service centre
- Customs needs to ensure proper training and should if there are several agencies involved in the attribution of AEO status - communicate results/problems/findings among the centres to enable the development of best practices into the training module.

#### f) Important points for Trade to note

- A company interested in applying to join the programme should prepare its application and selfassessment (a requirement of SAFE). The better the company is prepared for the subsequent audit, the faster the authorization process will be carried out.
- Companies should closely cooperate with customs (partnership approach also on their side).
- Companies should see their application/Authorization process as a possibility to bring certain schemes in the company in order/align them with legislation/streamline them.

# 2. Mutual Recognition of Authorized Traders and Authorized Economic Operators

#### 2.1. Definition and problem statement

To facilitate regional and international trade, the WCO's SAFE Framework encourages Customs administrations to develop partnerships with business and between each other. For this, it calls upon Customs administrations to work with each other to develop mechanisms for mutual recognition of Authorized Economic Operator (AEO) validations and authorizations; mutual recognition of Customs security control standards and control results; and other mechanisms that may be needed to eliminate or reduce redundant or duplicated efforts.

Mutual Recognition (MR) is a broad concept embodied within the WCO SAFE Framework whereby an action or decision taken or an authorization that has been properly granted by one Customs administration is recognized and accepted by another Customs administration. The document that formalizes this action or decision has generally been termed a "Mutual Recognition Agreement" or a "Mutual Recognition Arrangement" (MRA).

According to the WCO Guidelines for Developing a Mutual Recognition Arrangement/ Agreement (WCO, 2011)

...the objective of Mutual Recognition of AEOs is that one Customs administration recognizes the validation findings and AEO authorizations by the other Customs administration issued under the other programme and agrees to provide substantial, comparable and - where possible - reciprocal benefits/facilitation to the mutually recognized AEOs. This recognition is generally premised on the existence (or creation) of both relevant legislation (where applicable) and operational compatibility of both or more programmes.

An MRA refers to the signing of a formal document between two or more Customs administrations outlining the circumstances and conditions in which AEO programmes are recognized and accepted between the signing parties. The MRA sets out the process to implement, evaluate, monitor and maintain mutual recognition. In addition, the MRA defines the benefits mutually provided to the AEOs by the participating Customs administrations and lays down the practical arrangements enabling the participating Customs administrations to provide those benefits. The MRA should, to the extent possible, be published as a matter of public record.

#### **2.2 Benefits**

According to the WCO Guidelines for Developing a Mutual Recognition Arrangement/ Agreement (WCO, 2011) ...[m]utual recognition of AEO Programmes may ultimately lead to the globalization of supply chain security and compliance standards and is therefore of great importance for those companies seeking true global supply chain security and compliance benefits. Companies participating in mutual recognition of AEO Programmes will have confidence that their standing in such programmes will be made available, if they so choose, to other Customs administrations with which an MRA has been signed. Additionally, Customs administrations will be able to factor this information into their own risk determinations, which may lead to more focused validations and other compliance benefits.

Mutual recognition of AEO Programmes should provide benefits at the Customs-to-Customs level as well as at the Customs-to-Trade level.

By enhancing Customs-to-Customs co-operation and recognizing each other's AEOs, mutual recognition will allow Customs to target high-risk shipments more effectively and expedite low risk shipments. Through mutual recognition, AEOs should be expected, inter alia, to benefit from:

- Improved economic efficiency through reduced time and costs associated with crossborder Customs controls due to priority treatment.
- Reduced costs and time delays through priority inspections when cargo is selected facilitating just-in-time deliveries.
- Improved predictability and precision in moving goods from one's own territory to the territory of the trading partner whilst improving competitiveness of business.
- Reduced cargo theft and pilferage by improving the security of the bilateral supply chain.
- Target examinations to allow non-selected cargo belonging to the same trader to proceed without delay to destination to the extent possible.
- Reciprocal or comparable compliance benefits whenever equivalent programmes are provided.

# **2.3. Enablers to achieve mutual recognition**

For a system of mutual recognition to work, it is advisable that:

- The partners are committed to building a cooperative partnership.
- Prospective partners are signatory to the SAFE Framework with intent to implement both pillars and have a Customs-to-Business programme along with the following elements of the Customs-to-Customs pillar:
  - o a system of automated risk management.
  - ability to receive advance electronic information on cargo for risk analysis screening purposes.
  - o ability to examine high-risk cargo using modern technology before loading for export.
  - willingness to agree to conduct pre-load examinations upon reasonable request from the other partner(s).
  - o legal ability, willingness and capacity to share information on risk.
- The partners have an agreed set of common standards that include clear and objective "action" provisions for both Customs and AEOs.
- AEO Programmes are transparent and well published.
- Standards are applied in a uniform manner so that one Customs administration may have confidence in the authorization of another.
- There is understanding of a partner country's actual clearance procedures, cargo control environment, etc.

- Legislation to enable mutual recognition is in place and published.
- Data security and data protection provisions are compatible.

## 2.4. How to achieve mutual recognition?

The mutual recognition process between Customs administrations will typically consist of, but is not limited to, the following common activities:

- 1. Establishment of high-level commitment to consider an MRA at the appropriate level.
- 2. Assessment of alignment of AEO Programmes with the WCO SAFE Framework.
- Consideration and identification of comparable benefits and the conditions under which AEOs certified by one administration will be given access to them in the Customs territory of the other party.
- 4. Completion of a gap analysis based on an in-depth side-by-side comparison between AEO programmes focusing on legislation, procedures, standards and guidelines to determine compatibility or differences.
- 5. Undertaking of relevant action to close any unsustainable gaps between AEO programmes.
- 6. On-site joint validation audits to assess the practical implementation of AEO programmes.
- 7. Visits to Customs' AEO Headquarters' offices to observe programme oversight, if required.
- 8. Exchange of best practices and training materials to enhance AEO programmes, if required.
- 9. Resolution of data protection and data security issues.
- 10. Establishment of data exchange procedures, including required IT systems.
- 11. Establishment of a legal framework for the MRA, if not already in place.
- 12. Consideration of a pilot phase to test proof of concept if required.
- 13. Development of procedures to oversee the governance, operation and maintenance of an MRA.
- 14. Designating and providing the point of contact to the partner country.
- 15. Implementation of review cycles to assess the impact of MRA against agreed objectives.

Customs administrations should consult AEOs impacted by the MRA, prior to the review process, to ensure that their input is reflected.

# **3. AEO status in the Eurasian Economic Union**

The Customs Code of the Customs Union established the status of the Authorized Economic Operator. However, in the new Customs Code of the Eurasian Economic Union, this status has significantly changed. The figure below shows a comparison of the main characteristics of the AEO in the two Customs Codes.



Figure 2.6 AEO in the EAEU Customs Union

The advantages of the AEO status are:

- 1. Expansion of the list of special simplifications provided to the AEO.
- 2. Recognition of the AEO status throughout the customs territory of the Union.
- 3. Assigning AEO to a low risk category after the inclusion in the AEO registry.

Three types of certificates are available in the new Customs Code of the EAEU. A comparison of the main characteristics of the certificates is presented in the table below.

	For I, II and III types of certificates	
Conditions to be included in the register	Execution of foreign economic activities, customs activities as a customs representative, owner of the warehouse, customs warehouse for at least 3 years or customs carrier - at least 2 years (+ requirement for the necessary number of customs declarations submitted for this period or the total value of the goods transferred)	
	Absence of unpaid customs duties, special, anti-dumping, countervailing duties, penalties etc. present in all Customs Union countries	
	Absence of debt for taxes and fees.	
	The absence of evidence of involvement in administrative violations (which can cause the refusal to be included in the register) in all member states within the last year.	
	The absence of evidence of involvement in criminal liability for certain crimes (for individuals in all member states who are shareholders with 10% or more of shares, founders (participants), managers, or chief accountants).	

	The availability of inventory systems, providing access of customs authors to such information (including remote)		
	+ For I type	+ For II and III types	
	Ensuring fulfilment of AEO duties	Compliance with financial solvency requirements	
		Ownership or leasing, and operational and financial management of structures, premises, open areas	
		Compliance with requirements for structures, premises, open areas, vehicles and employees	
		+ For III type	
		Inclusion in the register with a certificate AEO I or type II for at least 2 years	
	l type	of certificates	
Special simplifications	Performance of customs operation	s on a priority basis	
	Authorized economic operators do customs, when placed under the custo	not have to provide guaranty certificates to oms transit procedures.	
	AEOs do not need to provide to customs any additional supporting documents or expertise during customs procedures.		
	Release of goods before	presenting a customs declaration	
	Conducting customs control in the form of customs inspection or customs clearance on a priority basis		
	Recognition by customs authorities of identification means, seals		
	Non-identification of the transportation route		
	Participation (as a priority) in pilot projects and experiments conducted by customs authorities		
	Carrying out the unloading, reloading and other cargo operations without permission or notification of the customs authority		
	Il type of certificates		
	Temporary storage of goods in buildings, premises or in open areas of the AEO		
	Delivery of goods to the CCZ (Customs control zone) created in the AEO facilities, their placement in such a zone, customs control and completion of the customs procedure for customs transit		
	Conducting customs control in the buildings, premises, in open areas of the AEO		
	Conducting customs operations related to customs declaration and release of goods in another customs authority where the goods are located (remote release)		
	Conducting customs control in the clearance on a priority basis	form of customs inspection or customs	
	Application of AEO identification tools used by customs authorities		

AEOs do not need to provide to Customs any additional supporting documents or expertise during customs procedures.	
Release of goods before presenting a customs declaration	
AEOs do not need to provide guarantees for deferred payment of import customs duties	
III type of certificates	
Simplifications of I and II types of certificates	

# **4. Example: Simplified Authorizations for Customs Procedures existing in the European Union**

Customs procedures in the European Customs Union have been modernized to promote and generate economic growth and jobs, through the definition of European Union (EU) harmonized rules and requirements (including process and data requirements) and through the gradual implementation and integration of trans-European IT systems. The new trans-European system consists of an EU trader portal, a customs decisions management system and a customer reference system.

New systems such as the Customs Decisions System (CDS), which manages the authorizations for simplified procedures granted to authorized traders, will increase process efficiency for all parties involved (customs authorities and economic operators). The system is an essential instrument to enable the processing and management of applications and decisions with a Union-wide validity. The authorizations, when granted, will provide Economic Operators with simplifications to conduct their business across the EU. Together with the EU Trader Portal, it offers an appropriate, level playing field among all economic operators in the EU, big and small, and makes sure that EU businesses remain competitive to withstand globalization. It will also support the member states' Customs Authorities in the proper management of applications and decisions and in the protection of financial interests as it enables automated checks in the import and export declaration systems.





Source: European Commission, "The Customs Decisions System" https://ec.europa.eu

It is important to consider the type of customs decisions an economic operator is applying. The system handles 22 applications/authorizations, as listed below. Some authorizations are not in the scope of the CDS and must be made outside the system.

- 1. Authorization relating to the simplification for the determination of amounts being part of the customs value of goods
- 2. Authorization for the provision of a comprehensive guarantee, including possible reduction or waiver
- 3. Authorization of deferment of the payment of the duty payable
- 4. Approval of a place of presentation of goods to customs other than a customs office, upon their arrival
- 5. Approval of a place of temporary storage other than a temporary storage facility
- 6. Authorization for the operation of temporary storage facilities, including possible movements of goods
- 7. Authorization to establish regular shipping services
- 8. Authorization for regular use of a simplified declaration
- 9. Authorization for centralized clearance
- 10. Authorization to lodge a customs declaration in the form of an entry in the declarant's records
- 11. Authorization for self-assessment
- 12. Authorization for the status of authorized weigher of bananas
- 13. Authorization for the use of the inward processing procedure
- 14. Authorization for the use of the outward processing procedure
- 15. Authorization for the use of the end-use procedure
- 16. Authorization for the operation of storage facilities for the customs warehousing of goods
- 17. Authorization for the status of authorized consignee for TIR operations
- 18. Authorization for the status of authorized consignor for Union transit
- 19. Authorization for the status of authorized consignee for Union transit
- 20. Authorization for the use of seals of a special type
- 21. Authorization for the use of a transit declaration with reduced data requirements
- 22. Authorization for the use of an electronic transport document as a transit declaration.

The project aims to harmonize the processes related to the application for a customs decision the decision-making, and decision management through standardization and electronic management of application and decision/authorization data across the Union. The project relates (in the framework of the EU Customs Union) to national and multi-Member-State decisions defined by the Code. It will cover system components developed centrally at Union level and integration with national components where opted for by member states. This trans-European system will facilitate consultations during the decision-making period and the management of the authorizations process

## **KEY HIGHLIGHTS**

#### Practical steps to set up a sustainable Authorized Economic Operator national programme

Step 1: Decision by Director General to implement AEO Programme.

Step 2: Develop a committee/working group to develop the programme

Step 3: Determine private sector's level of interest

**Step 4:** Develop programme requirements and application procedures (contract/legal terms/ confidentiality, verifications, legislation, appeal process, human resources and funding, IT system)

**Step 5:** Meet with private sector committee to hear their concerns and give the opportunity to submit ideas, suggestions, and solutions.

Step 6: Develop a pilot to test the process. Include milestones and performance indicators.

**Step 7:** Expand the programme further, establish milestones and performance indicators for phasing out the pilot and incorporating the process into the organization.

Step 8: Test further simplifications/benefits. Monitor and evaluate the results

Step 9: Implement mechanisms that support the operational staff that will handle the traders

Step 10 Completion of legislative procedure

# **Topics for discussion**

- Discuss how authorizations to apply simplified cross-border procedures could be a benefit for the economic operators in the Kyrgyz Republic.
- What type of cross-border simplifications would be most useful for the Kyrgyz Republic?
- What measures could be applied in case important changes in a company raise doubts about its trustworthiness?

## **Resources** (Module 2: Session 3)

De Wulf, Luc and Jose B. Sokol, eds. (2005). *Customs Modernization Handbook.* Washington, DC: World Bank. Available from <u>https://openknowledge.worldbank.org/handle/10986/7216</u>.

UNECE Trade Facilitation Implementation Guide <u>http://tfig.unece.org/</u>.

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WCO (2006). The Revised Kyoto Convention (RKC). Brussels. Available from <a href="http://www.wcoomd.org/en/topics/facilitation/instrument-and-tools/conventions/pf\_revised\_kyoto\_conv.aspx">http://www.wcoomd.org/en/topics/facilitation/instrument-and-tools/conventions/pf\_revised\_kyoto\_conv.aspx</a>.

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WCO (2015). SAFE Framework of Standards to Secure and Facilitate Trade. Available from <u>www.wcoomd.org/-/media/wco/public/global/pdf/topics/facilitation/instruments-and-tools/tools/safe-package/safe2015\_e\_final.pdf?la=en</u>.

# **1.** Overview of the process-related measures to facilitate international legitimate trade

In addition to general trade facilitation measures to improve the clearance process, there are a wide range of specific process-related measures that can have a tangible impact on the efficacy of the overall clearance process. The majority of the measures described in this session are covered by legal provisions in the Revised Kyoto Convention, whereas the International Convention on the Harmonization of Frontier Controls of Goods specifically addresses aspects of coordinated and cross-border management.





Source: UNECE Trade Facilitation Implementation Guide (2015)

Based upon the traditional steps of a Customs clearance process (as depicted above) it is important to note that, for the <u>'declare'</u> stage, the form and the content of the declaration (paper forms or electronic messages) and the handling of supporting documents have tangible impacts on the cost of trading and the efficiency of the clearance process—and, thus, are important trade facilitation measures. The declaration process can become much more predictable and consistent when Customs applies a system of advance ruling (see below) for classification, origin or valuation decisions.

At this stage, the trading community is often confronted with goods and cargo declarations that:

- a) do not conform to international standards for paper forms or electronic messages;
- b) contain more data than necessary for Customs control; and
- c) do not use the international code sets used in international trade and transport.

Consequently, the time and costs associated with the preparation and submission of the goods and cargo declarations are too high. Additional problems occur where Customs issues penalties for clerical errors in the cargo or goods declaration.

According to the General Annex of the Revised Kyoto Convention (RKC), the **Goods Declaration** is a statement made in the manner prescribed by Customs, by which the persons concerned (importer/exporter or agent) indicate the Customs procedure to be applied to the goods and furnish the particulars Customs require for its application (WCO, 2006).

According to Specific Annex A.1 of the RKC, "...the **Cargo Declaration** means information submitted [by the carrier or agent] prior to or on arrival or departure of a means of transport for commercial use which provides the particulars required by Customs relating to cargo brought to or removed from the Customs territory...and shall not be required to contain more than the information necessary to identify the goods and the means of transport." The data to be included in the goods declaration and the cargo declaration are derived from trade and transport documents pertaining to the

international movement of the goods, such as the invoice, bill of lading, packing list, etc. These documents must be submitted together with the declaration to Customs, and are therefore referred to as supporting documents.

The key trade facilitation solution regarding goods and cargo declarations is to follow international standards and harmonize data requirements. As such, Standard 3.11 of the RKC requires for goods declarations the mandatory application of the United Nations Layout Key for paper forms, or the World Customs Organization (WCO) Recommendations on electronic messages. The latter are consolidated in the WCO Data Model (see below), which is based on existing United Nations and ISO standards. For paper forms, the Single Administrative Document (SAD) of the European Community is the most widely used standardized Customs form, as it is the basis for the Asycuda Customs IT System developed and promoted by United Nations Centre for Trade and Development (UNCTAD) and used by all customs IT systems in the European Union (EU).

It needs to be noted that the use of the SAD in the EU is in the process of being phased out by the end of 2020. Since the introduction of the Union Customs Code, the EU has introduced the EU Data Model for electronic use only, which is better aligned to international standards.

In addition to international standard paper and electronic formats, Standard 3.12 of the RKC requires that Customs limit the data required in the goods declaration to only such particulars as are deemed necessary for the assessment and collection of duties and taxes, the compilation of statistics and the application of Customs law. The process of simplifying and harmonizing national data requirements against international standards is strongly supported by UNECE Recommendation 34, which gives step-by-step guidance on how to go about this process.

For low-value or non-dutiable items, the WCO Immediate Release Guidelines provide guidance on the goods declaration data required for the clearance of such items. As for the cargo declaration, Recommended Practice 9 of Specific Annex A.1 of the RKC requires Customs to limit the data to that available to the carrier, and based on documentation set out in relevant international agreements such the International Maritime Organization FAL forms, as regulated in the IMO FAL Convention (for maritime traffic); and the air waybill, as regulated by Annex 9 of the Chicago Convention and the Montreal Convention (for air traffic).

Customs should also ensure that electronic declarations can be authenticated electronically according to the Revised Kyoto Convention. According to Standard 3.39 of the RKC and Article VIII of the GATT, Customs shall not impose substantial penalties for errors where they are satisfied that such errors are inadvertent and where there has been no fraudulent intent or gross negligence. If they consider it necessary to discourage a repetition of such errors, a penalty may be imposed but this must be no greater than is necessary for this purpose (GATT, 1994).

During the <u>'check'</u> stage, Customs must check the declaration as soon as possible after the declaration has been lodged and registered. They should take only those actions that are necessary to ensure compliance such as verifying the classification, origin and value, verifying particulars in the declaration with the supporting documents, and verifying its authenticity.

During the <u>'select'</u> and examine stage, trade facilitation can be achieved through the application of risk management and selectivity, the use of non-intrusive inspection technology, and through coordinated intervention of border agencies in cases where a shipment has been selected for physical inspection.

The next stage addresses '**release**'-related matters, such as improving the overall release time, pre-arrival processing of declarations and the provision of a security and guarantee scheme to enable the segregation of release from clearance through provisional release or release against security.

The final stage covers trade facilitation measures relating to the calculation and '<u>collect'</u> process, leading to the clearance of the consignment. Deferred payment and e-payment of customs duties and

taxes methods are highly encouraged by the WCO Revised Arusha Declaration to raise the integrity and transparency of a Customs administration.

#### 1.1 Background and scope of data standardization and harmonization

In many countries, companies are required to submit to government vast amounts of data and documents to comply with national and international trade regulations. They must also exchange information with suppliers, customers, support agencies, financial institutions and third-party trade intermediaries. The definitions of the data elements required for these processes are often made with little or no coordination among the various government agencies, or indeed among commercial organizations. As a result, companies involved in trade and transport must comply with a variety of data requirements, documents and special forms—requiring the repetitive submission of similar or identical information.

In international trade, the use of non-standard (i.e. country specific and/or agency specific) data is highly inefficient in terms of cost and accuracy. This is also true in the case paper-based systems where traders are required to provide multiple and redundant forms. The solution to this problem is the simplification and standardization of data elements required for international trade. This is an iterative process of capturing, defining, analysing, and reconciling government information requirements, and then mapping this simplified data to international standards. The objective is to eliminate redundancies and duplication with the ultimate goal of defining one standard set of data and messages that traders and transport operators will provide to meet all governmental information requirements related to import, export, and transit. This use of international standards in trade data exchange supports the principles of standardization and transparency set out in Articles VIII and X of the GATT.

#### **1.2 Benefits of data standardization and harmonization**

Government and all governmental agencies involved in cross-border operations and international trade should see significant advantages through the removal of redundant data and the elimination of duplication in receiving and recording information. These advantages will quickly produce their effect upon implementation allowing Government to enhance risk-management techniques and deploy more effectively scarce resources for combating illegal trade. The overall improvement in official controls will promote trader compliance and secure government revenues.

Government is not the only beneficiary of a simple, standard set of data. A simplified, consistent and predictable official information requirement for trade will also provide the business community with major benefits. A simplified and standardized set of trade-related data will make it easier for legitimate traders to meet legal, regulatory and administrative requirements by reducing the amount of time, effort and money needed to gather, collate and submit data to meet official obligations. Information requirements aligned to international standards will enable legitimate traders to comply with the requirements more easily, in all countries where they are active in cross-border trade. To realize the proven and potential benefits, the business community should be involved in any Government approach to simplify and standardize data for official purposes. Equally, the private sector should actively engage in the consultation process to ensure the simpler, standard dataset recognizes commercial realities and the business drivers in the trade transaction

The use of international data and messaging standards in the provision of necessary information to governmental agencies for import, export, and transit transactions will be a major benefit to international trade. It will ensure data compatibility among government reporting requirements and will enable governments to exchange and share information with each other, resulting in further facilitation of trade and transport procedures.

## 1.3 Steps to harmonize and standardize information requirements

Data harmonization "involves a set of activities that improve the consistency in the use of data elements in terms of their meaning and representation format" (UN/CEFACT, . It is usually undertaken at the semantic level before considering document structures. Later, the message syntax can be created from standard naming rules that may be part of standard Technical Specifications. This ensures the message syntax is also harmonized when derived from the semantics using a naming and design rule (NDR) as part of standards-based Technical Specifications.

The simplification and standardization process involves 4 stages:

1) **Capture**: Prepare a national trade data inventory of current government agency data and information requirements from automated systems and documents to cover all requirements for the international trade procedures related to import and export.

2) **Define:** Define each record by compiling the name, definition and representation (text, format or code) of each data element.

3) **Analyse**: An analysis of the information requirement needs to be performed. For each data element it needs to be established whether its need is essential and its use can be demonstrated.

4) **Reconcile:** Reconcile the consolidated, defined, required and analysed current trade data to obtain a final list of updated data requirements. The list of required data need to be checked against international standards to ensure there is compatibility and preparedness for information exchange with neighbouring countries, and that countries' international agreements have been conformed with.



Figure 2.9

This involves the decision to use one data element name with a common definition and/or common coding, reconciled with the international standards of the United Nations Trade Data Elements Directory (UNTDED) and the UN/CEFACT Recommended Code List. For other reference data (e.g. those used for the Single Window development<sup>37</sup>) the data elements could be further mapped to other standards such as the Electronic Data Interchange for Administration, Commerce and Transport (UN/EDIFACT) set of Directories, World Customs Organization (WCO) Data Model and UN/CEFACT Core Component Library (CCL).

<sup>&</sup>lt;sup>37</sup> see module 3

The result is a simplified, standardized national dataset that can be used to provide information requirements in various syntax formats using a range of technologies. Especially in a Customs Union, countries could decide to combine their national datasets into a bilateral or multilateral dataset for use in providing data exchange in trading agreements.

Further, UN/CEFACT recommends that when creating a simplified, standardized national dataset, Governments should involve the trading community and other relevant stakeholders from the earliest possible moment within the data harmonization initiative. The rationale for this recommendation is the need for an internationally agreed, simplified and standardized dataset to be used for submission of trade-related information to government and governmental agencies. The lack of standardized datasets risks duplication of data and consequent redundancy, leading to increased costs and inefficiencies in the international trade transaction. In fact, the implementation of a Single Window for International Trade (explained in Module 3) is critically dependent on simplified and standardized data sets.

The UNECE Recommendation No. 34 applies to the national, regional and international simplification and standardization of data requirements to facilitate the automated exchange of data amongst government agencies and between trade and government. The international standards fundamental to Recommendation 34 are the data element names, definitions, and codes detailed in the United Nations Trade Data Elements Directory (UNTDED), and the respective Code Lists (e.g. UN/LOCODE).

# **1.4 Starting the Harmonization and Standardization Process using the Business Process Analysis Methodology**

The United Nations Network of Experts for Paperless Trade and Transport in Asia and the Pacific (UNNExT) advise starting the harmonization and standardization process with a Business Process Analysis (BPA). As discussed in Module 1, BPA is a methodology for the analysis of a business with a view to understanding the processes and improving the efficiency and effectiveness of its operations. It describes the processes involved, parties participating, information exchanged and documents produced. BPA is broadly applied by public administrations, major companies and various consulting services and implementation solutions. Also for trade facilitation projects involving the public and private sector there can be enormous benefit in performing Business Process Analysis (BPA) and subsequently Business Process Management (BPM).

Business process analysis can be used to achieve the following:

- To document implicit knowledge and capture and record manual and sometimes nondocumented processes (i.e. process manuals for both private and public sectors)
- To analyse individual actions, documents and data involved in international trade, which jointly or individually involve commercial, transport, regulatory and financial procedures
- To locate problematic areas that cause delays in moving goods from seller to buyer across borders such as unnecessary forms and documents and repetitive data elements
- To identify opportunities for improvements such as reducing the number of trade documents and minimizing data requirements.

Cross-border trade requires multiple separate transactions to be conducted by different parties. Trade facilitation aims at streamlining and simplifying processes within a region or country to reduce costs, delays and unpredictability in conducting cross-border business. Simplification efforts can, however, only by undertaken on the basis of a shared and correct understanding of the current situation. BPA can be used for different usage scenarios such as to identify bottlenecks and opportunities for improvement or training. As a structured process analysis approach, BPA is an excellent way to describe and visualize the processes involved in diagrams and pictures that can be readily understood

by those responsible for trade facilitation work. On the basis of this analysis, unnecessary steps, bottlenecks and opportunities to simplify can be identified and process improvements designed. BPA has been used by UN/CEFACT as part of their standardization work—for example in the Buy-Ship-Pay model. This model is used as a reference for trade facilitation projects to identify the scope of a project.

The United Nations has developed an aligned series of trade documents and a "United Nations Layout Key". UN/CEFACT has developed Electronic Data Interchange (EDI) messages, XML schemas and a core component directory that can provide some of these components, as well as implementation guides. The UN/CEFACT Modeling Methodology (UMM) may be used to specify the improved system. The UNNExT Guide on BPA provides a detailed description of each of these steps, and the Cambodia Case study summarizes the Cambodian experience using BPA to evaluate procedures, times and related costs associated with the export and import of products of strategic importance.

#### 1.5 UN/EDIFACT and UN/CEFACT XML messages to allow interoperability

The United Nations rules for Electronic Data Interchange for Administration, Commerce and Transport (UN/EDIFACT) is a United Nations recommended standard, and one of the most widely used structured business and government message standards in the world. The UN/EDIFACT standard provides a set of syntax rules to structure data, which contains directories of data elements, composite data elements, segments, and messages. There are also conventions for placing messages in an "envelope" which identifies the sender and receiver and other attributes of a transmission.

As UN/CEFACT messages are a superset of many collaborations, it is common practice to develop and publish subsets of these messages into message implementation guidelines. Organizations such as WCO, GS1, AIAG and Odette have contributed significantly to the continued development of UN/EDIFACT. Once published, they will subset the messages into guidelines for specific sectors in their areas of interest. While its use is still growing steadily, UN/CEFACT and other Standards Organizations have seen the need to provide alternatives.

Most of these new standards are based on new requirements to have semantic data models, and are based on technologies such as Core Component Technical Specification 'CCTS'. These standards are xml based and have become widely used because they are more familiar to implementers who are involved in Internet technology. In 2007, at its Dublin Forum, UN/CEFACT announced the release of the Cross Industry Invoice (CII). This was effectively the start of the UN/CEFACT release of XML schema for international and multi-sectoral use. This schema is what is termed CEFACT XML; it provides the validation necessary to ensure an XML file is compliant with the library model, and therefore interoperable with disparate systems. The schema is created using Naming and Design rules (NDR) and transforms the Core Component Library Metadata in each message into XML schema in a consistent and uniform way.

#### **1.6 World Customs Organization Data Model (WCO DM)**

#### What is a data model for Customs and trade?

A data model in this context involves semantic structures that can be used to create message profiles without having to consider the syntax. Data models should be harmonized across a domain and provide interoperability between disparate companies and governments in business-to-business (B2B) and business-to-government (B2G) scenarios.

Without a data model to contain the semantics of a business process or document, analysts cannot easily create convergence. When analysing disparate systems document requirements, a

means of recording each element and its relationship with other elements must be defined and stored in such a way that they can easily be retrieved to avoid duplication and confusion. A data model refers to the set of data included in a business document, and the structure and metadata according to which the data is organized. However, it can also be a hierarchical or reference data model into which the document elements are stored and harmonized. This means that each document element is contextualized and labelled so its position in the document is known, as well as its position in the hierarchy. Each element is inherited from a base or core component, similar to the way classes inherit from each other and, ultimately, a base class.

#### What is the WCO Data Model?

The WCO Data Model is an initiative of the World Customs Organization to simplify and standardize data requirements of Cross-border regulatory agencies including customs. Version 3.0, which is the last major release of the WCO Data Model, considers the increasing rate of Single Window developments, and aims for a better inclusion of other government agency (OGA) requirements. The model is consistent with other international standards such as the United Nations Trade Data Elements Directory (UNTDED).

The WCO Data Model is a set of carefully combined data requirements that are mutually supportive and which will be updated on a regular basis to meet the procedural and legal needs of cross-border regulatory agencies such as Customs, that control export, import and transit transactions. It represents an important innovation in terms of harmonization and standardization of data elements needed to support the implementation of the Customs Data Principles contained in the Revised Kyoto Convention and the WCO SAFE Framework of Standards. The adoption and implementation of version 3 of the Data Model will provide participating stakeholders with a unique opportunity to improve the overall cross-border regulatory control and trade facilitation environment of international trade.

From the production of version 3 of the WCO Data Model onwards, the focus shifted from support to the adoption of the instrument by WCO members. In the process, annual updates to version 3.0, called version 3.1, 3.2 up to 3.6, were produced. These updates incorporate the feedback received from WCO member administrations.

The Data Model Project Team (DMPT) of the WCO, has successfully finalized the production of version 3.6 of the WCO Data Model. It is a collection of international standards on data and information required by Customs and government agencies, developed with the objective of achieving a consensus on the manner in which data will be used in applying regulatory facilitation and controls in global trade.

The Data Model contains [up-to-date] data sets for different border procedures, including definitions of data elements, recommended data formats and suggested code lists. The data elements are logically grouped into units of meaningful information, called "information models". These information models serve as reusable building blocks with which one can build electronic document and data exchange templates. The Data Model also includes Information Packages, which are standard electronic templates linked to business processes – goods declarations, cargo reports, conveyance reports, licences/permits, and certificates. It is a library of data components and electronic document templates that can be used to effectively exchange business data. (WCO, 2016)

The WCO Data Model is designed to provide a complete set of data and data structures for Customs and related agencies such as agriculture and environmental protection. The model can be
used to develop messages incorporating export, import and transit operations particularly in a Single Window project.

The WCO Data Model comprises a library of components comprising a data set, business process models and information models based on Unified Modelling Language (UML). The data set is developed based on requirements defined in international conventions and common requirements based on legislation in member administrations. Data elements and code lists are to aligned to the maximum extent possible with existing international data standards. Based on this library of components, information packages have been developed for use by cross-border regulatory agencies to support data exchange in the context of Customs automation and Single Window.

### Main characteristics of the WCO Data model<sup>38</sup>

In the WCO publication 'WCO Data Model: cross-border transactions on the fast track' the WCO provides the main characteristics as shown here below:

WCO Data Model is a great support to Customs modernization efforts:

- ✓ Organizes information requirements for a modern customs administration
- ✓ Based on standardized business processes described in the Revised Kyoto Convention
- Complies with international conventions on trade & transport reporting
- Helps implement advanced reporting requirements including the SAFE Framework of Standards
- Enables participation in Customs-to-Customs information exchange programmes

WCO Data Model is a tool that supports the requirements of all cross-border agencies:

- Includes regulatory requirements for Customs, Statistics, Food Safety, Agriculture, Marine Safety, Environment, etc.
- ✓ Provides electronic messaging solutions for use in a 'Single Window' environment
- Identifies possibilities for sharing information and documentation among cross-border regulatory agencies
- ✓ Based on a coordinated border management approach
- Reduces compliance costs for trade

WCO Data Model is a powerful tool to support customs automation:

- Helps improve data quality by using standard international codes
- Uses standardized data to help build better quality risk profiles, which will ultimately improve compliance and revenue performance
- Facilitates the collection of accurate trade and revenue data

WCO Data Model supports changing requirements:

- Works with different syntax solutions and messaging technologies
- Provides solutions for security reporting, hazardous waste reporting, food safety controls, etc.
- Establishes the basis for effective revenue collection and simple, standard controls and procedures
- Boosts trade facilitation

<sup>&</sup>lt;sup>38</sup> WCO, 2009

#### Where does it fit with other similar initiatives?

It is important to note that the WCO Data Model and the United Nations CCL (Common Core Library), which are two hierarchical models that provide such modelling structures, both use the UN/CEFACT CCTS, which ensures they are interoperable and capable of being mapped at the semantic level. Once the semantics are agreed, then it is easier to provide a document standard using a specific syntax. Therefore, it is now a prerequisite to have document standards based on robust models. This is in contrast to earlier document standards such as UN/EDIFACT where each document was not part of a hierarchical data model.

# **2. Use of Information and Communication Technology for import and export procedures**

Use of Information and Communication Technology (ICT) will assist private and public stakeholders involved in export and import procedures to achieve business objectives. Use of ICT should be an important part of trade facilitation and modernization efforts described in this module. Effective information and communications technology (ICT) can help achieve business objectives and drive world-class border agency performance. However, ICT alone offers no magic modernization solutions. Successful ICT merely enables modernization and improved performance. The most effective modernization programmes address policy, process, and people issues—and then use ICT as an enabler to achieve the agency's mission and vision.

ICT is not in itself a solution but an enabler for wider agency modernization. Effective governance, organization, and alignment of ICT programmes must be ensured. Effective implementation starts with a view of how ICT can enable an agency to better achieve its vision and required outcomes. The end of effective implementation is not pressing the button to go live, but being able to ensure that the programme is consistently working to meet agency goals. The introduction of international standard forms and electronic messages is often part of a Customs automation project.

## 2.1 Drivers for the use of ICT for enhancing import and export procedures

Agencies look to ICT for tools to maximize performance and to provide the high assurance demanded by private and public stakeholders. To put new ICT in place successfully, a border management agency must:

- Secure the political and financial commitment to develop its vision and transformation programme
- Realistically assess its administrative capacity for delivering the vision
- Select the right partners to support change
- Continue to evolve and align business and technical strategies in a way that demonstrates the value of collaborative border management to their stakeholders

Border management agencies can take advantage of existing and emerging strategies and can access and share experience and good practice approaches. There should no incentive to reinvent the ICT solutions when information is available about what works, what doesn't, and why. The challenge is to learn from current best practice and create solutions that are innovative, flexible, and scalable.

Improved and new functionality (services) have become faster and easier to deliver. Collaboration across departments has become technically more feasible. In summary, sharing of effort across different agencies in a single country, but also amongst countries, regions, and around the world is now constrained only by the need for prior agreement and genuine goodwill. One should be aware that a commercial off-the-shelf solution—modelled after other similar systems and based on widely agreed standards and procedural models—is likely to be suitable for a standard business environment and certainly for an organization which has limited ICT capacity and experience. A standardized business environment (processes, data, etc.) allows more reuse of existing ICT solutions, offers greater fit (less customization), and it strengthens the application of ICT standards and international agreed procedures.

## 2.2 How to achieve ICT based modernization?

The World Bank has defined in its *Border Management Modernization*<sup>39</sup> book that an ICT modernization programme has six key aspects, which are all required to ensure positive results:

- 1. Formulation of a vision, a mandate, and the desired outcomes
- 2. Preparation of a 'blueprint' which includes most diagnostic work, time and resource planning
- Creation of an operating model which schematizes the links between all programme areas, describes the programme's organization and how it operates, including business and technology aspects
- 4. Definition of a business architecture, which need to have a process models and a clear description of required roles and responsibilities
- 5. Definition of a technical architecture which is composed of technical analysis, system design, system build, deployment and testing
- 6. Organization of the deployment (rollout) and operations (support, problem solving, etc.)

### **2.3 ICT in support of Customs Unions**

## a) The example of the organization of Customs ICT in the European Union (EU)

The World Bank book *Border Management Modernization* also highlights the role of ICT in the European Customs Union:

ICT use is embedded in the provisions of the EU's Union Customs Code (UCC) is an enhanced mission for EU customs. The use of ICT is essential to this enhanced mission, which includes the integration and interconnection of new and modernized customs procedures throughout the EU. Development in ICT are closely linked with the evolution of policy, legislation, and procedures in the EU customs union. Initially ICT was a purely national competence—systems were designed for the operational responsibilities of individual member states. Later, to replace paper based trans-European procedures, solutions known as customs trans-European electronic systems were developed. For the EU's economy to continue competing globally, it was essential to be able to exchange electronic information with the trade through various interfaces based on commonly used technology (McLinden and others, 2011).

The mandate to create and operate trans-European customs systems required a legal basis for the obligatory use of electronic declarations. The Union Customs Code (UCC) contains the obligation to govern ICT projects by a detailed work programme, which lays down priorities for investments made from the EU and national budgets. Such investments must be approved by the EU member states and monitored through regular meetings of its 'Customs 2020' Committee. All project documentation is

<sup>&</sup>lt;sup>39</sup> (McLinden, 2011)

maintained by the European Commission and published on secure websites to guarantee its availability to all concerned parties.

A specialized methodology for ICT system development and operations is based on industry best practice for systems development and project management and contains a set of guidelines and document templates. For tools in systems development, operations testing, and management reporting, the European Commission has a policy of using commercial off-the-shelf solutions as much as possible.

#### b) Use of Business Process Analysis and Management in the European Union

In parallel with the development of the detailed legal text Business Process Models were drafted and discussed. They represent how customs function under the UCC. The Business Process Models are created in line with international standards (BPM notation 2.0) and the use of specialized software ('ARIS' from Software AG). Such software is not indispensable, but helps to advance quicker, avoid mistakes and to keep control over the coherence of the totality of all models created.

Another feature is that the Business Process Models are available at different levels of detail, comparable with the Google Maps function where one can zoom in to have more detail. The levels 1 and 2 are mainly created to provide the overview across the different customs procedures. Level 3 is at the same level of detail as the Implementing and Delegates Acts of the UCC. The level 4 is the most detailed and provides the required detail for the software engineers to build the technical specifications and develop and test the software.

#### c) The European Union Customs Data Model based upon the WCO Data Model

To ensure that the automated UCC Customs procedures are compatible with international standards (in order to allow data exchange with other countries) the creation of a coherent data model is required. The EU Customs Data Model (EU CDM) is based upon the World Customs Data Model and is fully aligned to it. Where required, further information has been added which is specific for the EU. member states can further complete it in domains where no EU legislation exists and national data are used.

The EU CDM is available on the European Commission website in two formats: an html format, which is open source; and a 'GEFEG FX' format for which a license is required. Although more expensive, the last format has the advantage that it is the only format approved by the World Customs Organization and that the license comes with the model already loaded in the software. The EU used this format to be able to create the EU CDM quicker, with the help of specialized consultants. All new Customs ICT systems under the UCC will be based upon the EU CDM, of which the main parts have been reproduced as enclosures to the UCC detailed legislation (UCC IA & DA).

The EU CDM is kept up-to-date with the evolution of the WCO Data Model. The EU is an active participant in the WCO meetings on the WCO Data Model and makes suggestions for improvements based upon its own experiences. This way a fruitful interaction is being created which ensures compliance by the members to the WCO Data Model and the Data Model itself being in line with business and security & revenue requirements.

#### d) The challenges and opportunities for the European Union Customs Union

The big question for the EU, but also relevant for other Customs Unions, is whether each member state should develop its own ICT in a way that is compatible with the other Members, or if Customs ICT systems should be developed that are operated in the whole Customs Union.

Having individual systems per member state comes with a high price tag, as systems with the same functionality need to be developed as many times as there are member states. However, national

systems can also operate other non-harmonized functions such as indirect taxes (VAT and Excise). There seems to be a trend in the EU towards more joint development and creating systems together, but it will take many years before that journey will be completed, and on the way, further standardization and harmonization of processes and data submission and processing will need to be achieved in parallel.

# **3.** Legal base for electronic transactions – enabler of electronic customs transactions

The importance of legal basis should be stressed in this context. The full benefits of ICT can be only reaped by adopting the respective legislation. Legislation for electronic signatures and authentication of persons and companies should be part of this initiative. Most countries have, by now, legal provisions which allow for electronic signature or are in the process of creating or fine tuning such legislation. A sound and trustworthy procedure for electronic signatures is a condition for the use of electronic customs declarations and business-to-government information exchange.

Often the electronic signature is based upon an electronic identity management system. In other words, when a person can be uniquely identified in an electronic environment, one has an ideal tool to proceed with electronic signature. One of the advantages is that general legislation on electronic identity and signature can be used for cross-border purposes.

If this is not available, then a dedicated system will need to be created to allow safe and secure electronic signatures. What is required is an electronic system in which an individual (who is given access) can be uniquely identified. The authentication guarantees that the person connecting is really the person they claim to be. Here, the use of electronic access cards, fingerprint or facial recognition are possible solutions.

The revised version of UNECE Recommendation 14 aims to encourage the use of electronic data transfer in international trade by recommending that Governments review national and international requirements for signatures on trade documents to eliminate the need for paper-based documents by meeting the requirement through electronically transmitted authentication methods. Similarly, this Recommendation encourages the trading community and trade services providers to examine business processes to identify where signatures (of any kind) may be eliminated, and for those processes where this is not possible, to pursue the electronic transfer of trade data and the adoption of authentication methods other than the manual, ink signature (UNECE, 2014).

UN/CEFACT recommends that governments and those engaged in the international trade and movement of goods:

 Actively consider the removal of the requirement for a signature (manual ink or its electronic equivalent) from trade documents except where essential for the function of the document or the activity and refrain from requiring a signature in new rulings or practices.

Further, UN/CEFACT, recognizing the importance of authentication methods in electronic exchange of trade-related documents, recommends that governments and those engaged in the international trade and movement of goods:

- Consider the introduction of electronic methods to authenticate trade documents;
- Create a legal or contractual framework that permits and gives equal status to such authentication methods

To achieve this objective, UN/CEFACT recommends:

• A regular review of the documentation used for domestic and cross-border trade by a joint public and private sector working party (or sector-specific working parties). The goal of the working party would be to eliminate the requirements for a manual ink

signature and where this is not possible, replace the manual ink signature with other authentication methods.

Introduction of the use of electronic signature, combined with the management of the authentication of legal and physical persons requires setting up a project with the support of a project team with the required expertise (at minimum project management, ICT expertise, legal expertise and customs expertise.)

## **3.1** The Transboundary Space of Trust in the Eurasian Economic Union (EAEU)

The transboundary space of trust (TST) in the EAEU is a set of legal, organizational and technical conditions agreed to by the member states, aimed at ensuring confidence in the inter-state exchange of data and electronic documents between authorized bodies.

The main objectives of the TST are:

- Increasing the efficiency of electronic interaction within the Union;
- Creation of a common space for cross-border electronic interaction within the Union and beyond;
- Improving the efficiency of the integrated system;
- Reducing the costs of electronic interaction between public authorities of the member states with individuals and legal entities
- Establishing favourable and trustful conditions for the implementation of legally significant intergovernmental exchange of data and electronic documents between physical, legal entities and officials; public authorities and management of member states; officials and employees of Union bodies.





The subjects of electronic interaction within the framework of the TST are the authorities of the member states (their officials and employees), individuals and legal entities (representatives of legal entities), officials and employees of the Union bodies interacting within the process of drawing up, sending, receiving, storing and using electronic documents, as well as information in electronic form.

The government bodies of the third-party countries (their officials and employees), individuals and legal entities (representatives of legal entities), officials and employees of integration associations and international organizations can also become subjects of electronic exchange if relevant international agreements are in place.

One of the main results of the TST development is to provide an opportunity for individuals and legal entities residing in the member states to get an access to legally meaningful services (and not only in the member states of the Union, but in the territory of any other state that has concluded an agreement on accession to TST), using national or universal means of access within the Union. Such space development will create conditions for ensuring trust between the countries of the Eurasian Economic Union, as well as with third-party countries and international associations for the inter-state exchange of data and electronic documents.

## 4. Guarantee and security

## 4.1 Definition and scope

A "security" or "guarantee" is a mechanism for ensuring that obligations of a Customs procedure e.g. payment of duties and taxes, will be fulfilled in a given period in return for simplifications from the normal procedure e.g. release prior to clearance, deferred payment, or provisional release, where for example, a supporting document is missing or the goods declaration is provisional. Guarantees and securities are also required for all Customs procedures where the payment of the duties and taxes are suspended for the time during which the goods are placed under this particular Customs procedure, e.g. warehousing, inward processing or the for the Customs transit procedure.<sup>40</sup>

Sometimes Customs administrations do not provide transparent information about the forms of securities and how the amount of security is calculated. If Customs only accepts one form of a security, in particular cash deposits, and where the amount to be secured is arbitrarily set at levels exceeding the potential amount of duties and taxes due, this puts a significant financial burden on the trader and this cost is usually added to the cost of movement of the goods.

## 4.2 Implementation of guarantees and securities

Customs should have clear, transparent and precise rules, preferably in national legislation, to determine the forms of security accepted and the way the amount to be secured is calculated. According to the Revised Kyoto Convention (RKC), Customs shall enumerate the cases in which security is required and shall specify the forms in which security is to be provided. The forms of security include bank guarantee, cheque, cash deposit, insurance, etc. However, according to the RKC, the form of security shall be the choice of the person who is required to provide the security. The RKC requires Customs to keep the amount of security as low as possible and not exceed the potentially chargeable amount. Securities shall be discharged as soon as possible to minimize the financial burden on the trader.

For regular traders with a significant volume of declarations, in particular for Customs brokers and authorized traders, Customs shall provide (in addition to securities valid for a single transaction)

<sup>&</sup>lt;sup>40</sup> http://tfig.unece.org/contents/guarantee-and-security.htm

the possibility of a general security to cover obligations or all transactions over a given period, and transactions conducted in more than one Customs office. Such guarantee systems require a proper and swift mechanism to keep track of obligations and to discharge completed transactions promptly. Customs automation can significantly facilitate this work.

## 4.3 Adaptation of guarantees and securities for trusted traders

The rules must be clear and published in relation to guarantees to ensure a correct and equal implementation throughout the customs territory; but the same law can foresee several cases where a reduction of the guarantee amount is allowed under certain conditions.

First, a system by which a reduction of guarantees can be obtained is often applied in relation to comprehensive or global guarantees which cover all or most operations of a given company. The main reason is that the monitoring of the use of guarantees (including the reduction) is managed by an electronic customs system and would be extremely difficult to implement in a paper-based environment and valid for single operations.

The decision of a reduction of the guarantee goes hand in hand with the allocation of simplified procedures. The percentage of reduction allowed to a given trader will be based upon objective rules and reflect the amount of trust they are given in view of the practical circumstances of their business (risks perceived) and their overall track record in terms of financial management, absence of major or repeated infractions, knowledge and experience, etc.

The criteria for allowing such criteria should be published, but the results of individual assessments in relation to given companies should remain confidential. The company will be informed about the decision and could be given advice on how to further improve the situation, but the details of the assessment will remain internal to the customs administration

#### **KEY HIGHLIGHTS**

- The process applied for cross-border import and export procedures allows for facilitation measures at each step of the process. The '<u>declare step</u>' needs to be efficient, predictable and consistent. The <u>'check step'</u> needs to be done as soon as possible after the declaration is registered. The '<u>select stage'</u> needs to be based upon risk management and selectivity. The '<u>release step'</u> should be independent from the finalization of the clearance process. The '<u>collect step'</u> can happen after release if duties and taxes are covered by a guarantee.
  - The process of data simplification generally leads to the discovery of redundancy and duplication of information. Consequently, the standardization process often results in reduction of overall data requirements. Stability, consistency and predictability are other advantages that a standard dataset would provide. Business Process Analysis (BPA) and Business Process Management (BPM) are tools to document all steps of the import and export procedures and to identify opportunities for improving these processes (bottlenecks, performance issues, best practices).
  - Information requirements aligned to international standards will enable legitimate traders to comply with the requirements more easily in all countries where they are active in cross-border trade. The use of standardized messages is important to allow for compatibility. Much-used standards are UN/EDIFACT and UNCEFACT XML messages. The WCO Data Model is an important tool for standardizing the information B2G and G2G information exchange. The data model contains all data needed by all cross-border agencies and is updated once a year to accommodate new needs and evolutions.
- Although improvements can be made without ICT, performance can be greatly improved by making use of modern technologies to verify the quality of data, fast-track risk management, monitoring of guarantees, checking of payments, etc. In a Customs Union, the use of ICT and exchange of information will be dependent on standardized import and export processes as well as datasets, which will ideally use international standards.
- The use of electronic information exchange is based on a sound legal framework combined with the use of electronic signature and/or trusted authentication methods. To eliminate certain risks that come with the use of simplified procedures, a mechanism of guarantees should be used. These guarantees can be reduced in line with the degree of trust and remaining risks for a given trusted trader.

## **Topics for Discussion**

- 1. Discuss if a national data model has been prepared and implemented. Is the data model based upon international standards? Is it compatible with the data model of other countries of the EAEU?
- 2. Discuss how import/export related exchanges between government services could be organized to ensure compatibility and offer a well working environment. How would you approach the creation of such an environment?
- 3. Please discuss how the use of guarantees can streamline cross-border import and export procedures. What are the advantages and disadvantages?
- 4. What do you see as useful criteria to allow a reduction of the amount to be guaranteed to a level that is below the actual duties and taxes due?

## **Case Study**

## **Electronic Data Interchange and ICT used by Canadian Border Services**

As an illustration, the Canadian Border Services Agency (CBSA) describes its latest initiatives in relation to EDI as follows: The purpose of the Advance Commercial Information (ACI) programme is to identify threats to Canada's health, safety and security prior to the arrival of cargo and conveyances in Canada. Under ACI, carriers and freight forwarders submit electronic cargo and conveyance data to the Canada Border Services Agency within advance time frames.

The Accelerated Commercial Release Operations Support System (ACROSS) provides importers and brokers with the ability to transmit release and invoice data in electronic format. This system removes the requirement to present hard copy release packages. A Canada Border Services Agency (CBSA) inspector reviews the release data and makes a release recommendation (in the case of pre-arrival) or a release decision (in the case of post-arrival). Using EDI, the CBSA returns processing acknowledgements (pre-arrival) or release decisions (post-arrival) to the originating importer or broker.

The CBSA has added enhancements to ACROSS to support the release transactions of the Canadian Food Inspection Agency (CFIA) and other government departments such as Natural Resources Canada and Transport Canada. When CFIA transactions are submitted via EDI, the CBSA transfers them electronically to the CFIA to make a release recommendation or decision.

The Release Notification System (RNS) offers a timely and efficient notification of CBSA release decisions by providing brokers, importers, carriers and warehouse operators with electronic messages. The CBSA instantly notifies RNS participants when a transaction is released and when a Pre-arrival Review System transaction is approved.

The Customs Automated Data Exchange (CADEX) system provides importers and brokers with the ability to electronically transmit their accounting documents to the Canada Border Services Agency (CBSA) for already-released goods. This arrangement removes the need to present hard-copy versions of documents. Clients can also query certain CBSA files, and receive accounting data, release notifications, file updates and listings or releases when acquittal is overdue.

## **Resources** (Module 2: Session 4)

IMO Convention of Facilitation of International Maritime Traffic (1965 FAL Convention) http://www.imo.org/en/OurWork/Facilitation/ConventionsCodesGuidelines/Pages/Default.aspx

UN/CEFACT XML Messages https://www.unece.org/cefact/xml\_schemas/index

United Nations Core Component Library (CCL) <u>https://www.unece.org/cefact/codesfortrade/unccl/ccl\_index.html</u>

United Nations Directories for Electronic Data Interchange for Administration, Commerce and Transport (UN/EDIFACT) http://www.unece.org/trade/untdid/d00a/trmd/trmdi2.htm.

UNECE Trade and Data Elements Directory (UNTDED) www.unece.org/fileadmin/DAM/cefact/standar/docs/tded.htm

UNESCAP E-Learning Series on Business Process Analysis for Trade Facilitation <u>http://www.unescap.org/our-work/trade-investment-innovation/trade-facilitation/bpa-course</u>

UNNExT, ESCAP and UNECE (2012). Business Process Analysis Guide to Simplify Trade Procedures <u>http://www.unescap.org/resources/business-process-analysis-guide-simplify-trade-procedures</u>

World Customs Organization Data Model http://www.wcoomd.org/en/media/newsroom/2016/may/version-3-6-0-of-the-wco-data-model-hasbeen-released.aspx

WCO Immediate Release Guidelines

www.wcoomd.org/en/Topics/Facilitation/Instrument%20and%20Tools/Tools/Immediate%20Release% 20Guidelines

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# MODULE 3 SINGLE WINDOW IMPLEMENTATION

## SESSION 1 SINGLE WINDOW - HIGH LEVEL POLICY ORIENTATIONS

## 1. Definition and Advantages of a Single Window

The most commonly accepted definition of a Single Window (SW) is the one provided by the United Nations Economic Commission of Europe (UNECE) in Recommendation 33. It describes the SW as "a facility that allows parties involved in trade and transport to lodge standardized information and documents with a single entry point to fulfil all import, export, and transit-related regulatory requirements. If information is electronic, then individual data elements should only be submitted once" (UNECE and UN/CEFACT, 2005). Independently from its description as a platform, environment, or facility, a SW can best be understood as the service that it aims to provide to traders and government authorities alike. Such service facilitates the exchange of trade-relevant information between traders and government agencies, and among government agencies, for obtaining permits and licenses, certificates and necessary approvals. It does so by allowing traders, or their agents, to submit trade documents and data in electronic or paper form, through a single entry point (see figure 1).



#### Figure 3.0 The Single Window environment

Source: UNECE and UN/CEFACT, 2005

## **1.1 Single Window terminology**

The term Single Window has, at times, been used to describe various mechanisms and computer systems. This has been the cause for confusion among stakeholders and users (notably in the business community) as multiple systems in a country are labelled as a "Single Window". Private

companies describing their solutions as a "Single Window" without endorsement from a relevant regulatory body further contribute to the confusion.

To be clear about the scope and nature of any given mechanism The United Nation Centre for Trade Facilitation and Electronic Business (UN/CEFACT) created a controlled vocabulary - the Technical Note on Terminology for Single Window and other electronic platforms (UNECE and UN/CEFACT, 2017b). According to the Technical note, the definition of Single Window implies five key elements:

- Parties involved in trade and transport
- Standardized information and documents
- Single entry point
- Fulfilling regulatory requirements
- Single submission of individual data

One of the key elements which stands out is the concept of a 'single entry point'. The information for any declarative process should only be requested once and should be sent through the Single Window system which acts as the single entry point. This clearly reflects the submission of information from economic operators to the Single Window system. Of course, government agencies and economic operators will be the main beneficiaries of a Single Window, but the 'single entry point' designates the latter as being the reference point for the information's source. Commercial information is the essential condition for the effective operation of a Single Window facility

Another key aspect of a Single Window system is to fulfil all required regulatory functions related to a transaction. This implies that the Single Window system fulfils a government function. As such, it should have received a mandate from the government to perform these trade and transport regulatory functions for the specific type of economic operator.

The 'single submission of individual data elements' for one transaction can span across time, depending upon the type of merchandise and its method of transport (potentially in multiple deliveries). For example, if, in a first request sent prior to import to the Single Window, the main parties and the merchandise information is submitted in order to request an import permit, then the same information should not be resubmitted again when the goods arrive - unless that information has changed.

The UNECE suite of recommendations clearly sets forth an ideal for the establishment of a National Single Window to handle all cross-border trade-related regulatory requirements. Therefore, the designation "National Single Window" (NSW) would indicate that there is only one official Single Window and all government agencies should – either at the outset or progressively – participate within this framework based upon the guidance in Recommendations 33, 34 and 35 in order to streamline processes and eliminate any redundancies. In this case, no other Single Window should exist within that economy.

However, the reality of what is emerging in some countries is the establishment of multiple systems, each claiming to be a Single Window. The principle is that a Single Window system is established with the economic operator as the main user. Consequently, more than one Single Window could co-exist in a same economy, each targeting a different type of economic operator, as long as the five key elements of the Recommendation 33 definition are respected (notably having a mandate from a government authority and being a single entry point for the user). The economic operator, when acting in any particular role, should not communicate with multiple Single Window systems for the same operation. The specific role of each Single Window system should be clear. This is particularly important if multiple, official Single Window systems coexist in a same economy.

Other collaborative systems such as Single Submission Portal, Port Community System, One-Stop-Shop, Coordinated Border Management and so on, may exist to help facilitate national and crossborder trade. Often these systems identify themselves as a 'Single Window' which can potentially create confusion among operators, both nationally and internationally. Many of these offer services to satisfy regulations, such as the filing of customs declarations, but may lack a clear mandate from the government. Others are pure business-to-business (B2B) platforms which self-proclaim themselves to be a 'Single Window' even though they fulfil no regulatory function. To provide clarity to the user community, the following terms are suggested.

- Single Submission Portal: Allows traders to submit all the information related to a specific activity in a single electronic platform. This platform then redistributes the information to all participants within that portal. A Single Submission Portal differs from a Single Window in that it may or may not handle regulatory procedures and it may or may not be the only portal within a market.
- **Single Environment:** This approach brings together Information and Computer Technology systems (ICT) systems that work collaboratively to aggregate data related to a transaction with the view to submitting information to satisfy a regulatory requirement. Usually, the systems will establish a certain level of trust and data protection between themselves to seamlessly share the information. This can be completely transparent to the trader. This collaboration between IT systems is, of course, only the technical side of a much larger trade facilitation process of harmonizing and streamlining procedures, business processes and data elements (as described in Recommendation 34).
- **Single Window Environment** versus Single Submission Environment: For the resulting product to be considered a Single Window solution, it will need to be compliant with all five aspects of the Recommendation 33 definition. Where this falls short of any of these aspects, the term "Single Submission Environment" would be more appropriate.

#### **1.2 Single Window Advantages**

A Single Window project is a strategic, nation-wide effort to simplify and automate cross-border trade. In implementing a Single Window, a Government aims to achieve a set of strategic objectives, including increasing revenue and transparency, to increase the competitiveness of the national economy, to achieve better integration into regional and global supply chains, or to meet wider policy agendas such as implementation of regional trade agreements. While these objectives and their importance are different in each country, the Single Window projects have certain features in common. For the project management it is important to understand these expectations and their implications for the project plan.

A Single Window for trade is considered an important facilitation tool. If implemented effectively, it can simplify procedures and formalities for document submission and data collection and can save precious time and money. The following are the main benefits that key stakeholders of a SW project can achieve:

- **Government:** increase in government revenue, enhanced compliance with rules, improved efficiency in resource allocation, better trade statistics, enhanced risk analysis and management, improved security
- Traders: faster clearance times; a more transparent and predictable process and less bureaucracy; lower costs due to minimized clerical efforts, reduced delays; and more predictable, reliable and authoritative decisions
- **Customs:** improved staff productivity through the upgraded infrastructure, increase in customs revenue, a more structured and controlled working environment, and enhanced professionalism
- For the logistics operator: faster movement of goods, more productive utilization of resources, reliable information on timing of goods movement, better end-to-end audits of operation

• Economy as a whole: improved transparency and governance and reduced corruption due to fewer opportunities for physical interaction

## 1.3 Single Window and the WTO Trade Facilitation Agreement

The World Trade Organization Trade Facilitation Agreement (WTO TFA) is structured into three sections. It includes a variety of substantive obligations and detailed provisions on special and differential treatment for developing and least developed country members as well as the provision of technical assistance and capacity building. The substantive obligations include, among others, obligations on publication and access to trade-related information, appeal procedures, the simplification of trade procedures and goods clearance processes, agency cooperation, as well as cross-border customs cooperation.

The link between the WTO TFA and Single Window is in article 10 (section I) of the TFA entitled 'Formalities connected with importation, exportation and Transit'. It contains a specific provision on Single Window which reads as follows:

Members shall endeavour to establish or maintain a Single Window, enabling traders to submit documentation and/or data requirements for importation, exportation, or transit of goods through a single entry point to the participating authorities or agencies. After the examination by the participating authorities or agencies of the documentation and/or data, the results shall be notified to the applicants through the Single Window in a timely manner. In cases where documentation and/or data requirements have already been received through the Single Window, the same documentation and/or data requirements shall not be requested by participating authorities or agencies except in urgent circumstances and other limited exceptions, which are made public. Members shall notify the Committee of the details of operation of the Single Window. Members shall, to the extent possible and practicable, use information technology to support the Single Window. (WTO, 2017)

## 1.4 The National Single Window in the Kyrgyz Republic

The implementation of the Single Window mechanism in the Kyrgyz Republic began in 2007, following the adoption of Presidential Decree No. 464 on October 23 on the development of the national policy for foreign trade and of measures to improve export-import procedures. In 2008 the concept of introducing the Single Window principle in foreign trade was adopted with Resolution No. 315 (June 19).

The Kyrgyz Republic has made significant progress since then. From the very beginning of the project the country has been guided by international recommendations and UNECE standards, including:

- UNECE Recommendation 33 Recommendation and guidelines establishing a Single Window
- UNECE Recommendation 34 Data Simplification and Standardization for International Trade
- UNECE Recommendation 35 Establishing a legal framework for international trade Single Window

The main project goal is part of the measures to implement the strategy of simplifying transport and trade procedures. This aims at improving and developing the transport corridor and simplifying trade procedures by reducing physical and organizational constraints when moving goods across the border. Strategic documents for the development of the Single Window mechanism were adopted in order to provide the organizational and legal basis. The goals and target indicators of the project implementation have been determined. An authorized and coordinating body for the development of the national Single Window mechanism has been established. The development of the Single Window Information System (SWIS) is handled by a specially appointed national operator - the State Enterprise "Single Window State Enterprise"<sup>41</sup> under the Ministry of Economy. Participants and users of the Single Window mechanism are:

- Ministry of Economics
- State Agency for Environmental Protection and Forestry
- State Agency of Communications
- Department of Drug Supply and Medical Equipment
- Department of Disease Prevention and State Sanitary and Epidemiological Surveillance
- State Agency for Vehicle and Water Transport
- The Republican Center for Certification in Construction under Ministry of Construction Industry, Housing and Utilities Sector
- Bishkek Center for Testing, Certification and Metrology of the Center for Standardization and Metrology
- Chamber of Commerce and Industry
- The State Tax Service
- The State Inspectorate for Veterinary and Phytosanitary Security
- The involved private certification bodies include the following companies: "Sertifikat Perspektiva", "Standartsertik", "Sertifikat Jekspress", "Sapat-Test" and OAO "Hlebnaja inspekcija".

An agreement on interaction and electronic exchange of data and documents was signed between the SWIS and the State Customs Service. Based on this agreement, a joint order on the use of electronic authorization documents for the performance of customs operations was issued.

The principles of single submission of information and equivalents of paper and electronic document forms are established by law. Individual business processes in the field of regulation of foreign trade activities are automated, and the interaction of traders and the state bodies within the framework of these business processes is carried out electronically.

Currently, the Single Window implementation project is in its development stage. An information system of the Single Window for foreign economic activity has been introduced and its functionalities are under expansion.

This information system allows traders to apply electronically for permits and other documents, and to provide the customs authorities electronic access to the already issued documents, which are necessary for the performance of customs operations. State bodies responsible for the issuance of permits, upon the reference of economic operators, record information about the issued documents in the SWIS.

To accomplish customs operations, the trader can create a customs clearance folder in SWIS, which is assigned a ten-digit unique number. An employee of a customs authority has access to this folder in the process of performing customs operations. The authorized body, when issuing customs documents, must accept electronic authorization documents from the Single Window State Enterprise.

<sup>&</sup>lt;sup>41</sup> http://swis.trade.kg/

Within the framework of the Customs Modernization Project, a unified integrated information system (UIIS) has been introduced in all regions of the country. Interagency information interaction in electronic form is carried out according to the Government Program on the introduction of electronic management (e-government) in the state executive bodies and local self-government bodies of the Kyrgyz Republic for 2014-2017, as approved by the Resolution of the Government dated November 17, 2014 No. 651.

However, the following specific risks were identified while implementing the national Single Window mechanism:

- different degree of business processes automation among agencies, different degrees of readiness of the implemented information systems, and the lack of an information system in some agencies;
- insufficient involvement in the state bodies and authorized organizations' project;
- the unwillingness of the business community to switch to electronic forms of interaction with state bodies;
- lack of an interdepartmental risk management system;
- the portal of the national Single Window has not been entirely implemented, there is no inter-agency connection with some departments and the developed electronic services are not co-integrated among themselves

#### Figure 3.1

Criterion	Implemented (✓) /
Organizational basis	
The development concept of the Single Window mechanism	$\checkmark$
Implementation and development plan for the Single Window mechanism at the national level	$\checkmark$
Coordinating advisory body	$\checkmark$
The authorized body of the Single Window mechanism development	$\checkmark$
Legal basis	
The principle of single presentation of information is fixed	$\checkmark$
Electronic signature legislation / UNCITRAL Standards on Electronic signature (2001)	$\checkmark$
UNCITRAL Standards on Foreign trade (1996)	$\checkmark$
Equivalence of electronic and paper documents	$\checkmark$
Usage of electronic documents as evidence in court	$\checkmark$
Ensuring the protection and integrity of data	$\checkmark$
Information and technical basis	
Single Window portal	
Electronic declaration	
Issuance of electronic permits	$\checkmark$
Interagency cooperation system	$\checkmark$

## **1.5 Recommended steps**

One of the factors that should be taken into consideration when developing the national Single Window mechanism is the readiness of the legal and regulatory basis for the interactions between traders and state bodies and authorized organizations. For this, legislation should be amended or supplemented in the following areas:

- The development of the Single Window mechanism should be carried out through a comprehensive optimization of business processes and the regulation of B2G and G2G interaction procedures; when carrying out the optimization, it is necessary to ensure the implementation and application of international standards in supranational and national legislation.
- Provisions made for the recognition of electronic documents certified by an electronic signature, without providing paper documents.
- Eliminate legal gaps that prevent the use of electronic trade documents in court as evidence.
- The possibility of electronic interaction between business and the government should be provided with appropriate information technologies.
- Integrate the various interfaces into the National Single Window, allowing the users to interact both directly through the portal and the "system-to-system" interaction.
- The national Single Window portal should contain complete up-to-date information on the mechanisms and rules for the implementation of foreign trade activities and available electronic services. It should also provide the opportunity for electronic interaction with government bodies, the maintenance of a personal cabinet, etc.
- Interdepartmental information interaction in electronic form should be developed. This requires solving the issue related to different level of digitalization of state bodies and authorized organizations.
- The level of technical equipment of the information systems of government bodies should be evaluated and measures should be envisaged for their revision to ensure a sufficient level of information interaction.
- An automated system for customs clearance of goods should be developed as one of the elements of the national Single Window mechanism.
- Apply risk-management systems for preliminary analysis of the documents and information submitted, and create an inter-agency risk management system.
- The electronic payment of duties and taxes should be ensured, which requires the introduction
  of a system for online payments.
- The conditions for the interest of the business community in the use electronic trade documents when concluding export and import transactions, settlement, covering documents (commercial, shipping transport) in electronic form, should be created. For this purpose, it is necessary to analyse business processes and procedures for interaction between interested parties (B2B) in order to simplify the procedures for using national Single Window mechanisms by stakeholders (including interaction rules).
- Business representatives should participate in the meetings of the coordinating body.
- The issue of project financing should be addressed.
- The possibility of exchanging electronic data, including licensing documents in electronic form, by state bodies and organizations responsible for issuing permits within the EAEU should be ensured.
- Simplify the formats and structures of electronic documents and (or) information when establishing the order of information exchange in electronic form between traders, state bodies and (or) authorized organizations. At the same time, it is also necessary to ensure the possibility

of harmonizing the approach to a unified data representation (unified normative-reference information, unified state data architecture, etc.) to ensure compatibility of information systems within the National Single Window mechanism and the possibility of reusing data structures.

- Ensure information security when using the Unified Identification System and electronic digital signatures for identification and authentication of interested persons.
- The possibility of providing the services of the National Single Window mechanism to interested persons of other member states should be analysed. This is stipulated in the Action Plan for the implementation of the Basic Directions for the development of the Single Window mechanism.

Based on the recommendations above, the focus of the following chapters will be on the whole process of implementation of a Single Window. Starting from the very beginning can give the policy makers an overview of the whole process and help identify weaknesses and respective strategies to make the National Single Window fully operational and interoperable within the region.

# 2. Single Window policy planning

## 2.1 Visibility of Single Window at government level

When implementing a national Single Window, a Government often needs to address many interlinked issues coming from very different disciplines of Government, policy, trade and technology. In addition, Single Window projects need the support and participation of many different Government agencies and private-sector companies.

Ideally, three process streams must converge to bring about major policy initiatives. These streams (as first described in the WCO Single Window Compendium Volume 1) are the problem stream, the policy stream and the political stream. These streams exist independently but come together at crucial moments to produce structured policy decisions. We consider these three streams in the context of a Single Window in order to locate the success factors in consensus building and the enactment of policies.

The '**Problem' Stream** refers to the identification of problems through reports, operational statistics and feedback from the operational environment. This is the first step, and the goal is to provide information about the issues discovered and the relations between them. In this process, the private sector has an important role as is provides its input to the regulatory agencies on the current regulatory problems through formal and informal consultative processes. Such reports attract media attention and create public awareness/pressure on the stakeholders.

The **'Policy' Stream** refers to the intellectual analysis of policy options and alternatives undertaken by government agencies. Customs and other relevant agencies are important actors in this process as they seek collaboration and counsel of senior decision makers linked to Single Window initiatives.

The 'Political' Stream is related to the efforts to bring the Single Window project to the highlevel agenda of the Government, who is mandated to make the required decisions concerning the creation and operation of the Single Window. The challenge is to convince the relevant ministries and get the financial resource allocation. At this stage, it is important to explain the benefits of a Single Window environment and the role of each agency, including the lead agency. It needs to be underlined that the main new objective is to provide a unique service to trade, and that all agencies must work towards this goal, rather than putting their own status as the most important issue at stake. **Maintaining the policy momentum in favour of the SW is important** and must be kept alive to ensure a continued support from all services and trade involved. The time needed from the decision to create a Single Window until the start of operations constitutes the full 'build' or 'implementation' phase, and can take considerable time. Therefore, the implementation phase needs to be managed in several consecutive steps. The steps to be considered are based upon the steps identified in the WCO Single Window Compendium (WCO, 2017):

#### 1. Create a brand

While each Single Window project has project documents such as a blue print and/or roadmap, the content is often not readily known by the people involved (or interested) in the project. Therefore, it is recommended that a 'brand' or popular name for the project be created which makes it easy for people to refer to, and will be immediately understood by the others. In fact, the brand creates an image for the project and should be part of the communication strategy of the project. The brand name needs to be accompanied by easy-to-understand ideas which align with the objectives of the Single Window. These can be some of the main principles of Single Window such as 'streamlining cross-border trade' or 'control only once'. The brand name and its major principles need to be used in communication materials such as flyers, articles and interviews. Using clear symbols or a Single Window during its implementation phase.

#### 2. Identify & involve Subject Matter Experts

In view of the complexity of international trade, and therefore the functioning of the Single Window, there is a need to gather the required expertise in the Single Window project team. Such experts will bring expertise in the domains of the participating organizations, the trade expertise domains and other domains such as human resources, restructuring, planning, governance, etc. In addition, there will be a requirement to appoint a team leader, who will have the necessary capacities to ensure the project progresses in line with planning.

#### 3. Maintain visibility

As explained above, the support for the Single Window needs to be kept alive during its creation. Therefore, communication and information are of the utmost importance. A Communication Plan needs to be designed, agreed and implemented. The communication plan will not only provide printed and electronic texts to be communicated via different channels (including social media) but will also comprise events where people will meet to discuss different aspects of the Single Window. They can take the form of workshops, seminars, training, etc. In addition, presentations at high-level and/or international events are helpful to keep the attention on Single Window, and to discover the latest trends and experience that might be helpful for the Single Window development.

#### 4. Dip into existing stakeholder networks

The participation of stakeholders in the different events mentioned above will contribute to goodwill because people will personally meet, and wish to keep good relations with, colleagues from other departments or companies. This will result in an informal network around the Single Window. If well managed, such a network can be very helpful in case problems are detected or issues need to be addressed.

#### 5. Seize Opportunities

Events organized around the Single Window offer an ideal opportunity to discuss issues and to prepare the formal decisions needed to be able to advance its implementation. The WTO TFA has increased the interest of public and private stakeholders in the Single Window, resulting in demands by all stakeholders to provide priority to the Single Window implementation.

This support and attention coming from the international environment offers an opportunity to bring the Single Window to the attention of the key actors in charge of policy development and political decisions. Referring to international standards and commitments will help to gain the required attention

for the Single Window and ultimately to bring it on the agenda of the Government in order to provide Single Window with the necessary resources and standing it requires to be successful. This includes a decision on the most important topic of governance.

## 3. Moving towards an electronic Single Window (e-SW)

To conduct international business and trade, companies must prepare and submit large volumes of information and documents to governmental authorities to comply with import, export and transit-related regulatory requirements. This information and documentation often needs to be submitted to several agencies, each with their own specific systems and paper forms. These extensive paper-based requirements, together with their associated complex and slow procedures, constitute a serious burden to the development of export and import. Governments and business around the world are, therefore, migrating from these paper-based working environments into more efficient paperless environments by adopting information and communication technologies. If paper documents are converted into electronic documents, international trade can save billions of dollars in its supply chains. However, it takes several years to set up such a system and it can still be continuously improved and developed further with even more benefits.

One of the greatest challenges to the establishment of an e-Single Window is the modifications required in the legal framework. For example, in the European Union the Single Window must comply with the Union Customs Code and the existing European legislation in the field of transport, veterinary services, plant health, trade regulations, etc. Successful and efficient electronic Single Window implementation can only be achieved if the legislation is modified accordingly.

For this, a legal working group (LWG) can be tasked with undertaking the Legal Gap Analysis. This work would include not only identifying possible gaps in the legal framework for the SW but also the preparation of legal texts (for example, new or amended legislation, decrees, regulations, etc.) that will overcome any legal barriers to implementation of the Single Window.

The following steps are identified as the core of the establishment of the Legal Framework by the UNECE Recommendation 35 on Establishing a legal framework for international trade single window (2011) They are the steps to realize the resulting legal framework, and provide some further details on the issues that are often found regarding Single Window. The steps are presented in relation to the level of the legal environment at which they are targeted. It is to be expected that changes at the international level will be more complex and time consuming than those at the national level.

#### Step 1. Assessing the legal environment

The objective of this assessment is to establish the Legal Framework (LF) that will need to be undertaken. The architecture components may need adaptations (i.e. feedback to the Single Window enterprise architecture and/or (at the different levels of the legal environment) there may be a need to take specific legal measures. This can vary from country to country depending on the Single Window vision, the current legislation for use of ICT, and the use of innovative technologies for Single Window applications.

Annex I of the UNECE Recommendation 35 provides a checklist of legal issues that may arise when a national or regional Single Window is established (UNECE and UN/CEFACT, 2010). This list is not exhaustive. For many governments, this initial list of legal issues that will provide the basis for identifying other issues related not only to B2G and G2B transactions but also to the broader B2B environment nationally and internationally.

- ✓ Has the legal basis for the implementation of the Single Window facility been examined/established?
- Has an appropriate organizational structure for the establishment and operation of a Single Window facility been chosen?
- Are proper identification, authentication and authorization procedures in place?
- Who has the authority to demand data from the Single Window?
- ✓ When and how may data be shared and under what circumstances and with what organizations within the government or with government agencies in other countries and economies?
- Have proper data protection mechanisms been implemented?
- Are measures in place to ensure the accuracy and integrity of data? Who are the responsible actors?
- Are liability issues that may arise as a result of the Single Window operation addressed?
- Are there mechanisms in place for dispute resolution?
- Are procedures in place for electronic archiving and the creation of audit trails?
- Have issues of intellectual property and database ownership been addressed?
- Are there any situations where competition issues may arise?

#### Step 2. Establishing a supporting international legal environment

The establishment of the supporting international legal environment addresses such questions as the terms of mutual recognition of electronic documents and data messages that may be exchanged; and mutual recognition of certificates like AEO and authorized traders. Considerations regarding security measures, secure data storage, requirements for acceptance, and "non-discrimination" between paper and electronic documents may need to be addressed in this context.

According to UNECE Recommendation 35:

"In the event that disputes arise, whether at the national or international levels and whether between government agencies and private sector parties or between private sector parties, special consideration should be given to issues that may arise with respect to the admissibility of electronic evidence in courts or administrative tribunals (including processes for the discovery of information and data in electronic form.) The principle of "non-discrimination" between paper and electronic documents should be applied to judicial rules of evidence so that electronic documents or data messages will not be denied admissibility in such proceedings. This, of course, will lead to considerations, typical of most evidential requirements, of how electronic documents and data will be stored, secured, etc., to insure the level of reliability required for such documents or data messages to be admitted in such proceedings. Additionally, these considerations must be taken into account in cross-border transactions to ensure that electronic documents and data messages are admissible in judicial proceedings in foreign jurisdictions as well as being admissible in domestic proceedings. [...] Countries should involve their foreign ministries early in Single Window development efforts to assist in managing this process."

#### Step 3. Establishing a supporting national legal environment

The measures taken for this step again relate to the legalization of electronic documents and data exchange, as well as other backing laws (e.g. Electronic Transaction Law, Digital Signature Law, Computer Laws, Criminal Laws, and Privacy Laws). This list aims to provide some useful resources that (potential) operators of Single Window can access to aid the task of building an adequate legal framework for the efficient, effective operation of a facility that fully meets the requirements of government and the business needs of the trading community.



Figure 3.2 Resources to build the Single Window legal framework

Source: Based on UNECE Recommendation 35, Establishing A Legal Framework for International Trade Single Window (2010), Annex 3.

The use of Single Window sub-systems by different stakeholders can be made mandatory by law or optional for use. It is to be expected that the highest adoption will take place when the Single Window is obligatory. However, one may also implement certain services that – at least for a certain period of time – remain optional for all or some stakeholders (e.g. because of investment issues for SMEs).

#### Step 4. Drawing up terms for organizational agreements.

The following step is to establish the organizational agreements for Single Window operations. This includes service level agreements, government fee consolidation and electronic payments, terms of use, regulated CA operators, data ownership etc.

#### Last steps to render Single Window fully operational

After completing all the above-mentioned steps, a further gap analysis / audit needs to be conducted to describe in detail the changes needed to achieve a smooth use of the Single Window. If only part of the procedures are done electronically, the trade community will be not be able to see all the advantages of using the Single Window as it continues to need to fulfil certain requirements on paper at the competent agencies offices. To achieve this shift, there is a need for a transition strategy and implementation plan. This gap analysis will address the following domains:

- Legal obstacles: Full legal coverage of the Single Window functionalities is required. Legal rules should clearly prescribe that business conducted by means of the SW cannot be the subject of additional or parallel requirements imposed by the individual border agencies. The rules must be agreed to by the national trade facilitation board and transposed into adopted legislation, which will subsequently be published (preferably on the internet).
- <u>Technical obstacles</u>: A Service Level Agreement must be agreed to and respected that provides guarantees to the users an availability, integrity and continuity of service in line with the needs both of public and private stakeholders

<u>Functional obstacles</u>: The processes and services provided by the Single Window facility
must be logical, fit for purpose and streamlined in order to enable facilitation of trade. The
functionalities should allow for the completion of a given procedure using the Single window
only. If this is not possible, one should avoid completing the same procedure partly in the SW
and partly outside. This creates complexity and has a negative impact on the users.

In addition, as soon as a Single Window has an adequate level of quality by means of implementation of the measures identified through the gap analysis, there should be a communication and training effort to encourage traders to use the SW. Training sessions and documentation material should be available so traders can familiarize themselves with the system. Single window officials and cross-border agencies should be informed and encouraged to promote the Single Window.

In parallel, the government should set up a nationwide communication campaign promoting integrity and an anti-corruption plan should be established and implemented. This plan should not only eradicate practices where non-conformity to the rules is tolerated for payment or unauthorized reward, but also practices where people obtain better quality and speed of service for payment should be stopped. Most importantly, practices where given individuals discourage the use of the SW for reasons of corrupt practices should be stamped out firmly.

# **4.** Regional aspects of Single Window in Central Asia in the framework of the Eurasian Economic Union (EAEU)

## 4.1 Growing need for regional interoperability

Following the conclusion of the World Trade Organization (WTO) Trade Facilitation Agreement (TFA) in 2013, many governments (supported by their business community) are increasingly demanding interoperability between National Single Windows—whether bilaterally or at the regional level. The aim of interoperability should be to exchange accurate and complete data speedily, seamlessly and securely, and to the greatest benefit for operators and users.

The interoperability of Single Window can be implemented based on the provisions of UNECE Recommendations 33 on Single Window implementation, Recommendation 34 on data simplification and standardization, Recommendation 35 on the enabling legal environment for Single Window implementation and Recommendation 36 on Single Window Interoperability.

Often an interoperability initiative will put the greatest emphasis on the technical requirements needed to transmit the data in a timely, accurate and (perhaps most importantly) secure manner. However, international interoperability is a considerably more multifaceted process. Government, the trading community and other interested parties need a process and operating model in order to ensure coordination among the different authorities and agencies within their respective cultures, objectives and agendas. Equally, the system must acknowledge the views and opinions of all stakeholders to ensure that it meets their business needs. This final point is important for software developers and vendors that may need to produce the interface applications for interoperability.

## 4.2 Recommended approach

Based on UNECE Recommendation 36 and considering that regional integration is taking place in the framework of the Eurasian Economic Union, governments and the business community of the EAEU should:

a) Identify and analyse business needs for Single Window Interoperability (SWI).

b) Analyse the type of business process and information to be exchanged between the regional Single Windows, the existing **semantic** frameworks available for this exchange, and problems that need to be addressed by means of harmonization and standardization of processes;

c) Consider and discuss the most appropriate model(s) of **governance** for the proposed interoperability at the various stages of planning, implementation and ongoing operations and in a way that is both financially and administratively sustainable;

d) Research all relevant multinational and bilateral trading agreements and arrangements within the EAEU and with Member Countries to ensure that specific protocols or legally binding obligations are considered when developing a National Single Window and interoperability with other National Single Windows. If these agreements do not cover the identified business needs to ensure Single Window interoperability, stakeholders are encouraged to promote arrangements that ensure the organizational, legal, technical and semantic issues are addressed.

Government and business should not allow improvements generated by a Single Window to cease at the national border. Countries currently operating a National Single Window should actively and positively consider the development of interoperability as an integral part of a Single Window facility operational in a regional environment. The obvious advantage would be the ability to communicate within the region trade-related information easily, quickly, and more cost effectively for both government and the trading community.

## **4.3** The main principles of Single Window Interoperability

According to the UNECE Recommendation 36 on Single Window Interoperability (UNECE and UN/CEFACT, 2017a) there are several key principles applicable to information exchanges between Single Window systems and these set an example of issues that should be addressed and defined in any agreement between two or more National Single Window operations participating in such exchanges. They are based on the experience of the Eurasian Economic Union. The electronic exchange of information and data messages, and the further use of this information in each participating state, should be based on (at least) the following principles:

- Mutual interest and benefit of the parties (participating in the exchange of information): This
  principle means that the parties agree on the provision of information on a parity basis. The
  scope and conditions of the information provided should meet the interests of the parties.
  Information exchange should enhance the development of cooperation between the parties.
- Accessibility and availability of data: The requests for information should be processed and replies sent to the requesting party to the extent specified in the agreement between the States' parties.
- Accuracy and completeness of information: Information provided to the requesting party must be accurate and contain a complete list of information as defined in their agreement.
- **Timely submission of required information**: Parties should adhere to deadlines for providing the information fixed in an agreement. Delays in reporting should be avoided.

- The information exchanged should be used only for limited specified purposes: considering the needs of confidentiality and without prejudice to the state that has provided such information.
  - Harmonization is needed regarding the limitations of shared information between government agencies of different states (which may have different laws on data sharing). Data sharing should be only in the interests of the data provider, normally a legal person submitting data in a Business-to-Government (B2G) relationship. The use of the information is allowed only for the purposes for which it was sent by the data provider. The receiving Single Window would ordinarily not be permitted to share this information (without the express permission of the party submitting it) with third parties except, of course, with other government agencies that are participating in the Single Window and involved in a decision-making process related to the transaction (e.g. issuing permits, clearance of goods, etc.)
  - In some countries, the exchange of trade and/or customs information with another Single Window may require the permission of the trader submitting such information. In this situation, it may be important to incorporate provisions to permit this in an End-User Agreement for traders who submit trade data to the Single Window. In the absence of permission, the transfer would normally not be possible. Only a compelling reason of public interest could make an exception (e.g. if the transfer is necessary to save life or property values).
- Exchange of information is based on international standards and recommendations: For the purposes of information exchange and interoperability of information systems, the parties should use existing international standards and recommendations as incorporated into their agreement(s) for the exchange of data.
- Exchange of information is conducted on a non-profit basis: The information exchange should ideally be organized to take place on a free of fees or charges basis, especially in the G2G context. Where fees are charged, they should be cost-based and non-profit. However, this should not prevent the parties from deciding, in an agreement to exchange trade data, to adopt a fee schedule. This is also without prejudice to the financing model of the Single Window and the public services in general.

## 4.4 Good governance

The principles above are part of a larger concept known as good governance. It plays a significant role in creating and operating a National Single Window, but it is even more important at the international level in view of the Single Window Interoperability requirements. Governance as a concept or policy is multifaceted. According to the OECD, "good governance is characterized by participation, transparency, accountability, rule of law, effectiveness, equity, etc." In addition, "good governance refers to the management of government in a manner that is essentially free of abuse and corruption, and with due regard for the rule of law". (OECD, 2016) To ensure acceptance of good governance principles the implementers must demonstrate a strong determination, often referred to as 'political will' to ensure success.

Most often, the commitment to good governance comes from government in response to a demand from the populace, such as the eradication of corruption or other maleficent behaviour; the more effective administration of particular sectors of society; improvement in the performance of public or private entities; or the removal of obstacles to economic growth and the creation of wealth and employment. Consequently, governance is usually targeted at specific areas within society with the objective of enhancing the security and quality of life for citizens and to encourage the development of entrepreneurial activities. Ensuring the efficient and effective operation of a good governance regime requires certain prerequisites. For example, good governance should include:

- Transparency, including transparent processes and institutions based on clear rules and regulations and an appeal process for those affected by decisions;
- Accountability to those affected by decisions made and actions taken, as well as for delivering specific results;
- A clear definition of the governance regime;
- An understanding of the way the good governance regime will operate and the scope of the persons, parties, and other legal entities subject to it;
- A minimum of allowable exceptions;
- An unambiguous set of sanctions and legal penalties imposed in the event of contravention or non-compliance;
- Acceptance by the majority that the regime will be both beneficial and enforceable;
- An awareness programme informing the parties subject to the regime of its scope and implementation; and
- An open and transparent consultation process to seek views and opinions from all stakeholders subject to the regime.

An important, indeed essential, step in adopting recommendations and standards is to identify whether formal governance will be required in the implementation. Here it is crucial to make the distinction between governance (as described above) and good practice in project management by following proven organizational and operational methodologies. Where a feasibility study or project plan identifies the need for governance, appropriate provisions should be made to ensure it is effectively and efficiently incorporated in the implementation process. The requirements could include, but are not limited to, the formation of a specialist team within the project to examine governance issues, the allocation of suitable financial resources, the involvement of government officials from authorities and agencies impacted, consultation with business and third sector representatives and perhaps most importantly engagement with society and its citizens.

A possible way of achieving this could be to propose to the existing National Committee on Trade Facilitation the establishment of a regional or an international Trade Facilitation body under the WTO TFA. The governance models contained in the TFA provide information on viable models for both the domestic and regional/international aspects of a SW environment. Such an approach would be an excellent approach to ensure an economical use of existing resources within the budget available for international trade.

# **4.5 Resource requirements for the operation and evolution from a National to a Regional Single Window**

## **Human Resources**

According to the WCO, "human resource planning is the hidden source for a host of improvements. [Typically,]...government employment in [cross border agencies] is characterized by permanent lifetime employment. Assured job security can be helpful because employees can remain assured that their employment will be intact no matter what changes are brought through in their job content. At the same time, assured employment can be [a challenge] to enforcing discipline and favours employees over employers in their ability to bargain." (WCO. 2011)

The introduction of a regional dimension to the Single Window will have an effect on the required resources. Skill inventories will reveal gaps between current HR capabilities and requirements

under the regional Single Window. What type of tasks have the employees been doing in their positions over the years? Are they ready to work in the changed environment?

For example, in the agency designated to manage the operational aspects of the Single Window Environment, its executives will need to have the competencies involved in the management of inter-agency processes and close cooperation with officials of similar agencies in neighbouring countries participating in the regional SW. The integration and/or inter-operability of ICT systems, both internally and externally, will required highly talented and skilled staff. Specialized domains such as ICT agencies often call for specialized external staff from private companies.

Executive Management must ensure that staff are in a position to deliver the expected services. Training in the new environment is vital, as it is a clear occasion for employees to experience the challenges under the Single Window environment. It is also recommended to look at the training needs and courses from a regional point of view. Courses could be designed for the whole region and adapted to regional needs, such as language, ICT tools, etc. The underlying business logic and standardized information remains valid throughout the whole region.

Human resources inventory is especially required in countries where staff are vulnerable to bribery and irregular payment. To reduce corruption, governments should consider introducing methods to increase transparency for frontline positions using automation. The Single Window in a regional environment will ensure that information will flow not only across the agencies involved in handling cross border trade, but also from one side of the border to the other. Therefore, it can successfully be used as a tool to undermine and defeat the abuse of authority and corruption and would put pressure on non-transparent ways of doing things. A sound strategy would be to implement human resource measures in combination with information technology to systematically undermine corrupt behaviour.

## **Financial resources**

Financial planning should be, from the outset, at the forefront of considerations. Designing a regional Single Window Environment where some of the participating countries run into financial problems (which prevent the implementation of agreed tasks within the given time plan) leads to demotivation of staff and frustration with the other participating countries. It is therefore very important that the planning documents contain financial estimates (broken down per year) of the needed resources.

These estimates will include the creation cost or capital expenditures (CAPEX) and operational expenditures (OPEX). The duration of the estimates is usually the time to create the regional SW with all its functionality and an additional 5 or 10 years of operations. These figures will provide the decision makers with a good overview of what is required to successfully complete the task. The financial estimate will ideally also have an overview of the savings and/or wealth creation covering the same period. This can be seen as the opposite side of the balance sheet and will enable decision makers to see the time required for Return on Investment (RoI). Such figures should, of course, be realistic and achievable. If not, the credibility of the whole proposal is put into doubt.

As a further consideration, it is important that countries follow the planning, including financial planning, of the other participating countries. If they perceive possible problems or risks, they will put this on the agenda of competent regional meeting. Such an approach should be acceptable to all participating countries as the non-realization of certain tasks may delay or render impossible the completion of SW of a given country. A geographically incomplete SW will have repercussions for the operations of SWs in other participating countries, including the use of their investments and planned revenue.

An additional question to be resolved is if the costs of creation and/or operation of a regional SW need to be financed by the users, or if the financing will come fully from the public budget. If the planned SW is a Public Private Partnership, then one can imagine that the private partner will have the ambition to recover their investments, and if possible create a reasonable profit margin from the services rendered. If the financing comes solely from public funds, then it is a political decision whether the creation and/or use of the SW will be financed by its users by means of a service fee (e.g. membership or based upon frequency of use or a combination of both). Alternatively, it can be part of public services where no specific fee will be required for its use. In this case, the Rol will be calculated from the gains coming from the streamlining of services (decreased public spending), and the increase in the economic activities of the country—which leads to lower unemployment, and an increase of taxes paid.

## **KEY HIGHLIGHTS**

- ✓ The advantages of the Single Window to trade, government and economy in general cannot be overlooked. They are underlined by WTO Trade Facilitation Agreement provisions.
- ✓ To achieve a fully operational Single Window system (and reap all the advantages) a supportive legal framework needs to be in place which stresses the need for visibility at Government level, creation of a brand and maintaining it.
- ✓ Interoperability within the region can be achieved using principles such as mutual interest, accessibility, accuracy and availability of data, timely submission, international standards, and conducted on a non-profit basis. Good governance in this context is very important.
- ✓ The need of resources (financial and human) in such a context will have to evolve accordingly.

## **Topics for discussion**

- What do you see as strengths, weaknesses, opportunities and threats (SWOT) for solely
  public financing and for public private partnership (PPP)? How could the Return on Investment
  of the Single Window best be achieved in the Kyrgyz Republic?
- What are the training needs in the public and private sectors? What is already planned or happening? What extra efforts are needed?
- Discuss how the national Single Window can evolve in the regional context? Take into consideration a step-by-step approach covering a limited number of years.
- What are the domains where international assistance would be most useful to reach a fully operational Single Window, and subsequently to evolve into a regional SW?

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### SESSION 2 THE CONCEPT OF SINGLE WINDOW

Since the WTO Trade Facilitation Agreement was signed, Single Window has been even more frequently mentioned in association with trade facilitation. By giving the opportunity to submit only once and at a single-entry point, the facility enhances the availability and handling of information. It expedites and simplifies information flows between trade and government and results in a greater harmonization and sharing of the relevant data across government agencies and the trading community. To provide guidance on the efficient implementation of such a facility, this session will focus on the models and standards available, legal challenges and some practical ways forward.

# 1. What are the possible Single Window models?

Although there are many possible approaches to establishing a Single Window, three basic models (categories) were reviewed by the UN/CEFACT International Trade Procedures Working Group. The 3 models were derived from the various systems that are currently in place or being developed. However, before considering these models, it is important to point out that:

- Although many business and trade practices are common to all countries, each country will also have its own unique requirements and conditions.
- A Single Window should represent a close cooperation between all involved governmental authorities and agencies and the trading community

Based on UNECE Recommendation 33, three basic models for the Single Window are:

a) A Single Authority that receives information, either on paper or electronically, disseminates this information to all relevant governmental authorities, and co-ordinates controls to prevent undue hindrance in the logistical chain. For example, in the Swedish Single Window, Customs performs selected tasks on behalf of some authorities-primarily for the National Administration (import Tax VAT), Statistics Sweden (trade statistics), the Swedish Board of Agriculture and the national Board of Trade (import licensing).

### Figure 3.3 Single Authority model



(Source: UNECE Recommendation 33, 2005)

Figure 3.4 Single Automated System



(Source: UNECE Recommendation 33, 2005)

b) A Single Automated System for the collection and dissemination of information that integrates the electronic collection, use, and dissemination (and storage) of data related to trade that crosses the border. For example, the United States has established a program that allows traders to submit standard data only once and the system processes and distributes the data to the agencies that have an interest in the transaction. This can take the form of an Integrated system System (Single that processes the data) or а

Decentralized system (that interfaces with the different authorities for processing) or a combination.

c) An automated Information Transaction System through which a trader can submit electronic trade declarations to the various authorities for processing and approval in a single application. In this approach, approvals are transmitted electronically from governmental authorities to the trader's computer. Such a system is in use in Singapore and Mauritius. Moreover, in the Singaporean system, fees, taxes and duties are computed automatically and the traders' bank deducted from accounts. When establishing such a system, consideration could be given to the use of a master dataset, which



(Source: UNECE Recommendation 33, 2005)

consists of specific identities which are pre-identified and pre-validated for all relevant transactions.

For all the models listed above, the key factors in establishing a successful Single Window are: the political will, a strong lead agency, partnership between government and trade, establishing clear boundaries and project scope, user friendliness and accessibility, a legally binding environment, use of international standards and recommendations, identification of possible obstacles, having a financial model, payment possibilities, promotion and marketing to inform the users of the benefits of the facility.

## 2. What services does a Single Window provide?

The WCO uses the term "Single Window Environment", which was also the term used in the concept brochure produced as a prelude to UNECE Recommendation 33: "intelligent", facility that allows parties involved in trade and transport to lodge standardized information, mainly electronic, with

Figure 3.5 Automated Information Transaction System

a single-entry point to fulfil all import, export and transit related regulatory requirements, which are largely in line with the UNECE Recommendation".

It is important to highlight the term 'intelligent' Single Window, as WCO puts it in its Compendium (Volume 1):

"Single Window is not merely a data switch or a gateway to a set of facilities...nor is it simply a unified access point...through a web portal. [I]t is also a vehicle for providing shared services to users. Computation of duties/taxes, coordinated risk management, shared operational controls and orchestration of inter-agency business processes and workflows are some of the examples of shared services. The 'intelligence'...makes it possible to provide the trader with an integrated view of his transaction. Without intelligence, the Single Window is just a 'single portal' or a Value Added Network (VAN) service that connects the trader with various government agencies. [...] the defining feature of a Single Window remains 'one-time submission' to government agencies that seek information from trader and transport actors to enable the application of regulatory measures on cross-border movement of goods, people and all means of transport. Cross-border movements include import, export and transit. One-time submission implies avoiding repetitive submission of the same piece of information to government agencies. Information may be submitted in multiple transmissions, allowing the traders to provide data incrementally according to the logic of business processes covering cross-border regulatory clearance in its entirety". (WCO, 2017)

When building a Single Window environment, the participating agencies need to adapt from a situation where they have their own independent concept of operations to a situation involving process interdependencies and document exchanges. These interdependencies need to be defined in business process models that are agreed between agencies.

In view of the complexity of a SW, it would be necessary to chart out the migration paths from initial vertical silos (agency services) into closer and more integrated systems. In many advanced industrial nations, the following IT system are already functioning in the framework of a Single Window:

- Automated Customs Systems for declaration and release
- Automated licence management systems
- Systems for veterinary controls; sanitary and phytosanitary controls
- Cargo community systems for ports and airports that control the logistics and cargo flow
- Electronic Data Interchange (EDI) connectivity between customs systems, cargo community systems, trader systems, banks and automated licence verification systems

When these systems are developed, one needs to ensure that there is data interchange between them to produce benefits for Trade in terms of reducing time and increasing ease of use for traders. The above functionality with embedded interconnections is a good first version of a Single Window environment, which could offer a reasonable objective when financial and human resources are limited and still offer business value.

Further developed, the Single Window Environment can be seen as a collection of services that support the core regulatory functions of import, export, transit and trade facilitation. These services are predominantly enabled by information and communications technologies. The appointed Single Window operator provides (or supports) the enablement of these services on behalf of Cross-border Regulatory Agencies (CBRAs) through a common platform. Broadly, these services result in the regulatory clearance of goods, means of transport and crew. The offered bundle of related services—under one roof—makes it convenient for business as it is able to access and operate these services with ease and without difficulties.

# **3.** What standards are available for and used in a Single Window?

'One-time submission' cannot be achieved without standardizing the information exchange and its documentation. The word 'submission' means providing of information to a CBRA in a manner prescribed by law or in the system specifications with a view to receiving a decision, acceptance or approval from the CBRA (WCO, 2011). The interest in submission of declarations and requests by Trade (by means of standardized information exchange between trade and government agencies and among government agencies) is the possibility of the submission of information itself, and being able to receive the associated responses. Even more important is the processing of the information as prescribed in the legislation. Therefore, the Trader will be accountable for the correctness and completeness of the information submitted in the form of declarations and notifications under the applicable law.

The one-time submission is achieved by providing Single Window business processes which are structured activities designed to achieve this purpose. These business processes also include responses (return flows of information) from government agencies to businesses based on harmonized and co-ordinated responses by CBRAs to the trader who submitted the regulatory declaration. The business process management needs to avoid redundant flows of information from CBRAs to businesses and vice-versa in order to achieve a streamlined approach which provides the full potential of a Single Window Environment.

According to the WCO Compendium Volume 2 'Building a Single Window Environment" the one-time submission to a Single Window is based on the following principles, all of which signify the 'intelligence' aspect of a Single Window Environment:

Incremental submission of data: Trade and logistics actors submit data to CBRAs at subsequent moments in time in line with the business practices and availability of data in international trade. A Single Window should be able to handle submissions only containing the incremental data to reflect a change or progression in the transaction along with an identifier of the transaction. The Single Window should avoid repeated submission of data if such data was part of an earlier submission. The ability to link-up individual submissions of data by a trader is an important function and part of the intelligence of a Single Window Environment.

<u>Harmonized regulatory declarations</u>: Where at the outset different CBRAs prescribe data requirements which are often overlapping, under the Single Window a harmonized set of data requirements should be prescribed so that for a trade transaction or a transport movement, the concerned actors are not obligated to submit the same data repeatedly to different agencies.

<u>Sharing of information among CBRAs</u>: This is a logical consequence of harmonized regulatory declarations, but attention will need to be given to access rights to the information in order to reflect the 'need to know' basis of data protection issues. This intelligent sharing of information enables the shared or separated application of controls by the respective CBRAs.

<u>Harmonized CBRA response</u>: The return information (or response) to a declaration by a trade or transport actor is an important part of the business process. A CBRA response indicating release of goods signifies the fulfilment of a regulatory service. Each CBRA may process its responses independently, but the Single Window must provide, in relation to the release of goods, a unique harmonized response to the trader.

Besides the compatibility of data, which is a major source of facilitation for trade, it is also important to underline the need for compatible and streamlined business processes. This involves the use of agreed standards for the representation of data at the semantic level through the process of data
harmonization; and the use of agreed message syntax, through standardization of messages. As the data is harmonized and put into context, a registry is required to store the metadata for later comparison and reuse. This is calls for the development of data models, which provide a hierarchical framework for the data. They use technical specifications to provide a consistent way to standardize storage and ensure reuse.

The use of international standards also facilitates the regional integration of Single Window functionality and exchange of information in an international environment in general. Applying international standards will increase transparency and trade efficiency and will improve compliance. To apply these international standards in a Single Window environment, a national dataset should be developed which combines the data requirements of all relevant border agencies. The process of collection, rationalization and harmonization of these national trade data elements with the relevant international standards is well defined in UNECE Recommendation 34.

# 4. What is the Legal Framework required for Single Window?

# 4.1 The Intersection of Law and Technology in the Single Window Environment

Single Window facilities are complex trade facilitation measures that require, first and foremost, strong political will to bring the many stakeholders involved together to work towards a common system. Once the political will is there, often much attention is dedicated to the technical development of the Single Window and the procedures to be handled by the facility, and little attention to the legal implications of the choices made and the availability of an enabling legal framework. UNECE Recommendation 35 describes legal challenges and has provisions on how to create a proper legal framework for international Single Windows.

As noted earlier, much of the technical Single Window development work around the world is focused on the use of ICT. That is, most SW environments anticipate that transactions involving the import, export, and transit of goods that are submitted to and processed by the SW will be done (at least partly) electronically. This reflects, of course, the rapidly growing use of electronic transactions in international trade generally, and as part of the development of global supply chains in particular. There are a variety of technical areas within a SW facility and its cross-border elements in which different technologies can be selected to perform particular functions.

For example, an electronic SW system will involve, among other things, the use and creation of electronic documents and data messages, transmission of such documents and the retention, storage and archiving of these documents and messages in formats that will enable them to be used in the future for various purposes. The development of SW facilities may seem to be limited only by available resources such as funding, or by political will and management capabilities. However, there are additional limiting factors. The kinds of decisions made in the development of the SW that ultimately lead to the overall system architecture (i.e. choosing among many technical options) can affect the options available for creating the legal infrastructure needed for a particular Single Window implementation.

Similarly, legal requirements in a particular country's legislation and/or regulations can limit the technology options that can be used in developing its Single Window. It is suggested that SW development programs work simultaneously on both the technical and legal frameworks in addressing issues related to this "intersection" of law and technology. In this respect, it might be advantageous not to rationalize existing procedures, but rather to implement brand new procedures specifically designed for the new media. While the complete re-engineering of the processes may not always be possible,

streamlining of the processes can generally be readily considered along with its legal implications, particularly in terms of data sharing among participating government agencies.

### **4.2 Legal challenges**

The electronic Single Window is an important tool for the realization of paperless trade, which is a broader concept aimed at promoting and streamlining cross-border trade, and therefore economic development and growth. As a result, the successful implementation of an electronic Single Window facility is necessary for the establishment of paperless trade, and both goals require an adequate legal environment that provides the required legal basis for SW transactions. In the trade context, data and documents are normally exchanged between business (B) and government (G). Exceptionally, consumers (C) can be an actor as well. Historically, business has driven the expansion of the use of electronic B2B communications. The cross-border supply chain facilitates commercial transactions between private businesses in order to connect businesses at each end of the chain. However, interaction with governmental offices (B2G) and between governmental offices (G2G) is required to complete the transaction in compliance with regulatory cross-border requirements.

A significant part of the transactions with public offices takes place in the context of the electronic Single Window, which may therefore be classified as a business-to-government (B2G) application. The electronic Single Window is therefore a component of the e-government environment of a country. The need to ensure seamless exchange of electronic communications between business and government entities is required to make the electronic SW effective in facilitating trade, but poses peculiar legal challenges. In this respect, two different approaches have been observed. In countries belonging to common-law systems, general principles are provided for all electronic transactions, while a limited set of special rules for exchanges with government entities (or consumers) may be added as needed. In other jurisdictions (mainly with a civil law tradition) exchanges among commercial operators fall under general trade and transport related rules, while different separate rules are adopted for electronic communications exchanged with government—or consumers. This approach may force commercial operators to upgrade the standards used for private transactions to meet the higher requirements for exchanges with government authorities. While this results in higher initial compliance costs, it contributes to establishing a standardized environment for electronic cross-border trade.

Moreover, the differences in applicable legal regimes may also result in lack of clarity in relation to the implementation of SW legislation. This is particularly problematic if interaction with electronic commercial partners in different jurisdictions is needed. This brings along higher compliance costs due to a different legal regime for B2G transactions and may discourage or prevent commercial operators from submitting data contained in those documents. This situation might occur to be even more problematic in cases where authorities require the submission of trade documentation that is traditionally only a part of the underlying B2B transactions. In cases where the exchange between trading partners requires one type of system and the submission to the public authority has a different system and generates higher costs, this may slow down the use of SW in such legal environments.

These considerations may explain why countries tend to move toward a broader approach, based upon the United Nations Commission on International Trade Law (UNCITRAL) Model Law on Electronic Commerce. The exchange of electronic communications with public authorities is preferably part of the general legislation on electronic communications. The necessity of enabling B2G interaction highlights the desirability of a uniform and standardized regime for electronic communications applicable to all actors involved. In fact, the underlying economic operation (e.g. a contract for sale and delivery of goods) at the core of the cross-border movement of goods should ideally be associated with only one set of data, to be used for all related electronic transactions.

As the information originates from the business sector, the legislative environment should respect and accommodate as much as possible the needs of that sector. Hence, the adoption of general comprehensive legislation able to fully address the needs of commercial operators, and whose application is extended to the public sector, is desirable. Such an approach, aimed at obtaining information directly from electronic commercial documents, may ensure more timely submission of data and better data quality as only one set of data is used for selective distribution among participants.

Besides smoother B2G interaction, the SW may serve other useful purposes related to e-Government (including G2G). For instance, the automated creation of an electronic audit trail for all transactions allows more accurate monitoring and workflow optimization by all cross-border traderelated control agencies. This may enable more precise control of revenues as well as a prompter reply to queries from the public on the status of their submissions.

### 4.3 The legal gap analysis

Undertaking a legal gap analysis to identify potential legal challenges for the implementation of an electronic SW is a challenging process and raises a number of important practical considerations. The institutional or organizational framework which defines the functioning of the Single Window is of particular importance. Some countries have established a national steering committee to oversee the implementation and operation of the SW. The national steering committee should have representatives from all government services involved in cross-border traffic, as well as representatives of the highest level of government. It could therefore include members from the Prime Minister or President's office, Ministers leading key areas of government that will be involved in the SW, legislative leaders, and representatives from the private sector.

This type of approach helps to insure that the "political will" needed for the establishment of a SW, and which will include input from many different ministries and government departments, is at the centre of the process and will enable the needed decision-making process. The importance of high-level involvement, as well as adopting the necessary legal framework for the SW, is noted as the key ingredient for success in UNECE Recommendation 33, which states:

"The most important prerequisites for the successful implementation of a Single Window facility are the political will of the government and the relevant governmental authorities and the full support and participation of the business community. The basic legal framework, including the introduction of privacy laws and rules providing privacy and security in the exchange of information, will also have to be developed." (UNECE and UN/CEFACT, 2005)

Identifying the potential gaps in a country's legal infrastructure for implementing the SW requires undertaking research and analysis on domestic laws (legislation, regulations, decrees, judicial decisions, etc.), administrative guidelines and policies, and international agreements. Particular attention should be paid to uniform legal standards, as their international nature may be particularly useful in establishing the legal environment needed for cross-border exchanges. In fact, uniform legal standards may be used as benchmarks in the legal gap analysis. According to the Capacity building guide on electronic Single Window issues (UNNExT, ESCAP and UNECE, 2012). The analysis should cover the following matters:

- 1. Electronic transactions legal issues, including:
  - a) Legal issues related to identification, authorization and authentication including electronic signatures;
  - b) Legal requirements for electronic documents and messages;
  - c) Need for development of legislation or other regulations dealing with electronic signatures

- 2. Policies (executive acts, instructions circulars, or documents of similar nature), legislative enactments, administrative rulings, regulations and governmental decrees, circulars and the like that would formally establish the SW in national law;
- 3. Development of a service-level arrangement (SLA) for the operation of the SW;
- 4. Laws and regulations on data protection and information security;
- 5. Legal and/or regulatory requirements for accessing and sharing information and data between and among government agencies;
- 6. Legal requirements and regulations on confidentiality and privacy;
- 7. Laws and regulations relating to data accuracy and integrity for the SW;
- 8. Liability issues related to operations of the SW, including cross-border transactions;
- 9. Regulatory/legal requirements for data retention and electronic archiving;
- 10. Dispute settlement considerations;
- 11. Intellectual property rights and database ownership issues, including the ownership of data and information stored or archived in the SW;
- 12. Examination of banking law for electronic payments in the SW system;
- 13. Cross-border (mutual) recognition of electronic signatures and, where appropriate, of certification authorities;
- 14. Legal issues related to conflict of laws in cross-border transactions;
- 15. The use of electronic evidence, for example, in judicial and enforcement proceedings;
- 16. Competition law issues (including treaties and conventions, and General Agreement on Tariffs and Trade (GATT)/WTO requirements applicable to the SW);
- 17. Include an analysis of how international legal standards have been (or have not been) incorporated into a country's legal framework for its SW;
- 18. Other legal issues that may be identified as important to a particular country's legal regime. For example, laws and regulations for all government ministries or agencies that will be participating in the SW.

The research should identify and describe, among other things, the main domestic laws, regulations, decrees; legal circulars that arise in the relevant areas of electronic transactions for the SW; related aspects of electronic transactions law; and the legislative and regulatory aspects of a country's customs operations as well as that of other ministries and government agencies related to the import, export and transit of goods. Most importantly, the study should include analysis that identifies any gaps in the domestic legal framework that will need to be addressed for the full implementation of the SW and its cross-border interoperability in an electronic environment.

### **KEY HIGHLIGHTS**

- The main features that generate facilitation for trade are that the information can be submitted at a single location, and if electronically submitted the information needs to be submitted only once.
- ✓ It is very important that the SW has a solid legal basis and that all services offered and procedures supported are based upon adopted legislation, completed by guidelines which are all readily available for the users
- A solid legal basis can be prepared by conducting a legal gap analysis, which will provide the list of required measures to be taken
- In order to ensure the Single Window is widely used, a list of legal, technical and functional obstacles preventing a wider use in a given country under given circumstances must be compiled
- Lastly, the Government must promote the use of SW and insist that public services recommend its use and enforce a strict anti-corruption policy to avoid negative effects on the use of SW.

# **Topics for discussion**

- Discuss what you see as the minimal required functionality a SW must offer to be meaningful in a country
- Discuss what you consider to be the ideal functionality of a Single Window in its completed status
- Consider for your country what needs to be done in order to have a widely used Single Window for Trade
- Consider what extra efforts will be required to render the SW of your country compatible with the Regional initiative by the EAEU

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### SESSION 3 IMPLEMENTING A SINGLE WINDOW

# 1. Overview and Roadmap on Building a Single Window

### 1.1 A Single Window roadmap based on five evolutionary stages

Simplification and automation of documents and procedures in a Single Window takes place incrementally stage by stage. In 2005, a UNECE forum called "Paperless Trade in International Supply Chains: Enhancing Efficiency and Security" collected lessons learned from many economies around the world and presented a recommended roadmap for developing a Single Window, taking into account the evolutionary nature of these projects. The evolutionary concept of Single Window was confirmed and further detailed in the background paper of the Global United Nations Trade Facilitation Conference "Ten Years of Single Window Implementation: Lessons Learned for the Future", held in 2011 in Geneva.

### Level 1: Development of a paperless customs declaration system

Because every import-export must be declared to Customs, most countries introduce electronic trade facilitation by first starting with electronic Customs declaration systems. The electronic Customs declaration system usually evolves from a paper-based Customs environment or from the use of traditional Electronic Data Interchange (EDI) systems where traders submit both electronic customs declarations and paper declarations. Paperless Customs environments use only electronic customs documents through secure Value Added Networks (VANs) without requiring physical visit and without submitting physical papers at a later stage.

Often the functionality of paperless Customs declaration systems is extended to cover other Customs-related activities (e.g. online duty payment; electronic risk assessment and risk-based inspection strategies; electronic container loading documents to electronically associate between Customs declarations and physical containers of those declared goods; and some basic electronic information exchange between Customs Departments and terminal operators for facilitating and speeding up customs release operations at a port or border area.

A paperless Customs system is the first and initial start for the development of the national Single Window. If a national paperless Customs system is not yet available, the development plan should secure funding and implement such a project as the first priority. This system should be covering other supporting functionalities such as paper-free Customs declaration submission, electronic payment for Customs duty, automated risk assessment and risk-based inspections, and deployment of the systems at all major seaports, airports and land border crossings.



#### Figure 3.6 A Single Window Roadmap in five evolutionary stages

Source: UNNExT Single Window Planning and Implementation Guide, 2012

# Level 2: Regulatory Single Window Integration of Paperless Customs with other regulatory bodies issuing trade/import/export/transit-related permits and certificates, and other related documents

After linking traders and Customs electronically, countries can develop a Single Window electronic document exchange system linking several or all Government agencies dealing with the regulation of imports and exports. This system allows application for and issuance of electronic import/export-related permits and certificates and their exchange between Government agencies.

With such a facility, traders don't need to pay physical visits to many different regulatory locations. For example, in Malaysia, electronic import/export permit documents issued by several other Government agencies can be sent electronically to the Customs Department for faster checking and clearance. The systems in Columbia, Israel, Senegal and Thailand are other examples of this level of Single Window development.

The more challenging feature is a regulatory Single Window with single submission where traders submit their export or import data only once to the Single Window. Such a regulatory Single Window Entry facility is then able to communicate with several authorities to obtain any necessary permits and certificates. An example of this type of Single Window is TradeNet of Singapore, where traders submit electronic data in a Single Window to obtain all necessary import/export-related permit/certificate and customs declarations. The challenges here depend mainly on jurisdiction issues, the willingness of many independent Government agencies and constraints for system integration set by the existing legacy systems in the administrations.

Level 3: Extension of the Single Window to serve entire trade and logistics communities within the airports, seaports and/or dry ports Port (adding a Port Community System)

The next stage in developing a Single Window is to integrate the private-sector stakeholders and intermediaries at major airports, seaports, or borders. The systems are sometimes referred to as Port Community Systems (PCS) or Port SWs. There is no clear distinction between the two terms: often PCS have a stronger B2B focus and Port SWs have a stronger focus on B2B components.

The International Port Community System Association (IPCSA) defines a PCS as a neutral and open electronic platform enabling intelligent and secure exchange of information between public and private stakeholders to improve efficiency and competitiveness within the sea and airport communities. Documents and information can be linked electronically for better and faster coordination among all stakeholders in the port community. A Port Single Window normally connects to the electronic Customs declaration system and to other regulatory authorities. The system should optimize, manage and automate smooth port and logistics procedures through a single submission of data and by connecting transport and logistics chains.

# Level 4: Fully Integrated Single Window. Creation of an integrated national logistics platform interlinking the administrations, companies and the service sectors to better manage the entire chain of import-export operations

One of the most advanced National Single Window systems, such as the electronic trade portal in the Republic of Korea, called Korea u-Trade, connects not only traders, customs and other regulatory authorities, but also private-sector participants such as banks, customs brokers, insurance companies, freight forwarders and other logistics service providers.

The level of connectivity at this level normally includes the linkage as of Level 1 and Level 2 (paperless Customs and other regulatory SW) with the extension to cover more business sectors such as bank and trade finance, cargo insurance companies, traders, freight forwarders, ship agents and carriers.

Fully integrated Single Windows may or may not link to the port community Single Window, as in the case of Korea u-Trade, for example, which hasn't electronically and fully linked up with the marine community information-exchange system, KL-Net. However, every country must evaluate based on national requirements and a cost-benefit analysis whether to develop a fully integrated SW is worthwhile and a national priority at a given point in time.

# Level 5: Cross-border Single Window Exchange Platform Interconnection and integration of national Single Windows into a bilateral or regional cross-border e-information exchange platform

Electronic cross-border information exchange is an important instrument for regional integration and increased security, trust and collaboration between trading countries. As an example, in this category the New Zealand Food and Safety Authority (NZFSA) and the Australian Quarantine and Inspection Authority (AQIS) already exchange their electronic sanitary and phytosanitary certificates for facilitating import and export procedures by allowing electronic data cross-checking between those two agencies. The systems help to ease and speed up trade and improve regulatory control of agriculture and food products between the two economies.

Electronic certificate of origin documents are exchanged between associated authorities of the Republic of Korea and Hong Kong SAR as another example of cross-border e-document exchange. This cross-border data exchange platform helps to reduce risks and documents fraud related to certificates of origin.

It is understood that discussions and reflections are ongoing in the EAEU on the interconnection and integration of national Single Windows in terms of exchange of information and the use of standardized data and processes. Subsequently the proposed systems upgrade needs to be discussed with the stakeholders, including an implementation plan—and after that fine-tuning needs to be approved by the SW management and carefully implemented.

# 2. Single Window Project Management – Practical Steps

A national Single Window system has three major components:

- The in-house information systems of a cross border agency, for example the data processing systems of the national Customs organization or the enterprise resource processing (ERP) systems of a freight forwarder;
- A central gateway that exchanges information between the connected agencies and companies and coordinates processes (the central gateway is often regarded as being the core of the Single Window platform, and it uses standard messages);
- An interface that maps and exchanges data between the in-house information system of the stakeholder and the central gateway;
- If linked to a regional/international Single Window, the national system has as additional component: an interface that exchanges data between the national central information gateway and a central information gateway in another country that can be either another national central gateway (country-to-country data exchange) or a regional gateway that connects to a set of national gateways.

In reality, moving from a paper-based to an ICT-based environment is implemented by means of a step-wise project. Typically, a Single Window is implemented gradually. The incremental approach allows for a demand-driven expansion of the Single Window and its services. It also helps countries to learn from experience and to adapt the implementation plan as required.

Because of the complexity of the projects and the required changes in business processes and trading practice, most economies will choose incremental implementation of their national Single Window. The current session provides a description of how Single Window development and evolution can serve as a roadmap for the long-term development of a fully-fledged national Single Window.

The roadmap divides the evolution of a national Single Window into five different maturity levels. It should be used as a reference model. Policymakers can determine the current state of their Single Window in the model. They can then define objectives, prioritize and suggest the next stage they want to reach. If paper documents are transformed into electronic documents, international trade can save billions of dollars in its supply chains. However, it takes several years to set up such a system and it can still be continuously improved and developed further with even more benefits.

### 2.1 Practical steps in planning and implementing a Single Window

The UNNExT Single Window Planning and Implementation Guide (UNNExT, ESCAP and UNECE, 2013) has formalized 5 project management steps to establish a successful Single Window:

### 1. Preliminary/Inception phase: developing a concept paper for preliminary and initial discussion.

This step is usually undertaken by the lead governmental authority or agency, or private organization likely to be heavily involved in the eventual implementation of the project. Such a paper would usually describe the overall objectives and potential benefits of a Single Window, and would present a general overview of what would be involved in its implementation.

# **2. Elaboration phase: conducting a detailed feasibility study.**

At this stage, a detailed Single Window feasibility study is developed based on face-to face interviews. The study should determine the potential scope of the Single Window, the level and type of demand, possible scenarios for implementation, potential for





Source: UNNExT SW Project Implementation Guide

and nature of a pilot implementation, resources required (financial, human, technical, etc), potential benefits and risks, a time frame, and an implementation and management strategy. If a positive political commitment is reached a Task Force should be set up, composed of appropriate technical and management representatives of key agencies, to take charge of the carrying out of the organizational and implementation work required for the project. A document formalizing the Objectives, Responsibilities and Terms of Reference should be drawn up for the Task Force ahead of time and agreed upon at the meeting.

### 3. Planning phase: formulating a high-level Single Window master plan.

Figure 3.8 Suggested High-level master plan structure	
Analys	sis
0	Inception, delivering a preliminary Analysis
0	Elaboration, delivering detailed and agreed
	feasibility study
Develo	opment
0	Vision and objectives
0	Mapping business objectives and
	processes
0	Data architecture
0	Application architecture
0	Technology solutions
0	Legal infrastructure
Deploy	yment

• Change management

(Source: UNNExT SW Project Implementation Guide)

A high-level or strategic master plan should be formulated to define clear paths for the development and deployment of the Single Window. Over time, this master plan should be periodically aligned with changes in business objectives in order to remain as a strategic reference. The high-level master plan or project management plan, which must be formally agreed upon by both the Project Management Group and the Task Force, should contain a set of clearly defined interrelated tasks and event milestones that can assist the Task Force the Project and Management Group to plan, execute, monitor, evaluate, and adjust the project implementation. There are many well-established approaches to project management and several good software programmes available to assist in this process.

### 4. Execution phase: executing and overseeing the project plan.

As a next step of the project management process, we consider approaches on how to monitor and oversee the progress being made so that if there are any significant deviations from the project plan, corrective action could be taken. For a national Single Window project, UNECE, ESCAP and UNNExT recommend the creation of project management offices on three major levels:

a) Political: The Project Management Office (PMO) team at this level takes the important role of monitoring the progress of the key deliverables of the SW project, providing quality checks and feedbacks, and reporting back to the senior-level stakeholders.

**b) Strategic:** The designated leading agency (e.g. Ministry of the Economy) is mandated to be the focal point at the strategic level. This leading agency should establish a PMO team to manage and coordinate the various projects with other government agencies and business sectors. The master plan needs to be further refined and divided into several detailed plans led and coordinated by this strategic-level PMO. In this way, each participating government/agency will procure, implement and deploy its systems along with associated reforms that must align with the overall Single Window architecture.

Operational Strategic	Political
Management of individual projects Leading agency	Planning and overseeing the whole project

### Figure 3.9 Levels of project management offices

c) Operational: Each agency in charge of any specific sub-projects needs to have its own PMO to manage its individual projects. Best practices in project oversight should be used to monitor and control the development and deployment project. The project's documented plan is the basis for monitoring activities, progress and their deliverables; communicating the status of the project, especially significant deviations if any, and taking corrective action as appropriate. Progress is primarily determined by comparing the actual work products, tasks, cost and schedule with the planned ones at prescribed milestones within the project schedule or with the work breakdown structures in the project plan. Normally, a deviation is considered to be significant if, when left unsolved, it precludes the project from meeting its objective. If the actual progress of the project deviates significantly from what is expected or if any alarming concern arises, the necessary corrective action must be taken. Possible choices of corrective action may include simply communicating and escalating the issues to the policy makers; or "re-planning", which may involve agreeing on a new, revised plan including new schedules, establishing new agreements and preparing mitigation activities within this new current plan.

### 5. Lessons-learned/Feedback phase - collecting lessons learned

Once the Single Window is in operation in full or in part, it is important to be aware of the quality of operations and the need for corrections and evolutions. A Single Window that does not respond to the expectations has a demotivating effect on its users and the staff providing the Single Window services and this must be avoided. Furthermore, a Single Window that does not work properly does not produce the trade facilitation effects it was designed for (or does so insufficiently).

#### a) Ensuring the quality of operations

As a first measure it needs to be ensured that the objectives and services to be rendered by the Single Window (in line with the project documentation) are well documented and the information is accessible to the public. Information and training sessions need to be organized in line with this requirement (depending on national economic, geographic and organizational circumstances). This way all potential users are aware of the situation, and problems due to lack of information can be avoided.

The authorities responsible for the operations of the single Window should establish and publish Service Level Agreements (SLA) in relation to the SW services offered. To be able to do so, the same authority will need to ensure they have an SLA with the Cross-Border Agencies that have operational tasks in the respective domains of their responsibilities. Also, SLAs needs to be concluded with any (external or internal) technical party providing support to the SW operations. The SLAs will use standardized Key Performance Indicators (KPI) in order to avoid disputes of interpretation, and in order to be able to offer a constant level of quality which is clear and understandable to all.

It is necessary that the Project Management Office monitors the operations on a continuous basis, registers the performances, and reports to the management on a regular basis as inscribed in the SW requirements. The reports will indicate the respect (or not) for the SLAs.

In addition, a Service (Help) Desk should be established which can be contacted by the users. All calls should be registered and handled in line with an agreed methodology and standards such as ITIL. ITIL, formally an acronym for 'Information Technology Infrastructure Library', is a set of detailed practices for IT service management (ITSM) that focuses on aligning IT services with the needs of business.

ITIL describes processes, procedures, tasks, and checklists, which are not organizationspecific, but can be applied by an organization for establishing integration with the organization's strategy, delivering value, and maintaining a minimum level of competency. It allows the organization to establish a baseline from which it can plan, implement, and measure. It is used to demonstrate compliance and to measure improvement. Although ITIL underpins ISO/IEC 20000 (previously BS 15000), the International Service Management Standard for IT service management, there are some differences between the ISO 20000 standard and the ITIL framework.<sup>42</sup>

The Service Desk is often organized on a three-tier approach, where the first level registers the calls and provides answers to frequently asked questions, which are compiled in an electronic register. The second level considers reported and registered issues and formulates responses. Certain issues

<sup>&</sup>lt;sup>42</sup>EA Principals website: <u>https://eaprincipals.com/course/itil%C2%AE-operational-support-and-analysis-osa</u>

happen to be real problems and are passed on to the third level, which is composed of the actual business and ICT services responsible for that function of the SW.

Besides the Service Desk, it is a common and good practice to offer a contact point for escalation of issues, which are not satisfactory of the users. If need be, such issues can be put on the agenda of management meetings items to be discussed and in need of a management decision.

Providing full and up-to-date information on the Single Window functionality and operations to the users of public services and private companies, combined with a professional support service to solve upcoming problems avoids false expectations and misunderstandings. In addition, a continuous quality of service of the operations ensures customer satisfaction and raises the profile of the Single Window, resulting in increased use over time.

#### b) Gathering information on lessons learned

Make sure Key Performance Indicators (KPI) have been agreed at the moment of the development of the Single Window. If not, give a task to the Project Management Office (PMO) to prepare a first draft of the KPI which needs to be submitted to the SW management for agreement to start a consultation of all private and public stakeholders on the draft KPI. The PMO collects all feedback and prepares an updated draft. If open issues or doubts exist, a meeting with the stakeholders is organized to solve the remaining issues. Subsequently, the PMO sends the updated draft to all stakeholders for verification, and when all issues are closed the SW management decides formally upon the list of KPI.

A KPI monitoring service should be set up, which reports at agreed intervals (e.g. quarterly) to the management. This information should be concise, in an easy to read format and made available to the user community (e.g. by means of the SW website). This approach ensures that facts exist on the functioning of the SW and users' opinion on the functioning of the SW will be based upon objective information, rather than impressions or rumours. In addition to of the monitoring of the functioning of the SW (which ensures the quality of operations) it is recommended to conduct periodic reviews of the effectiveness of the processes relative to the business objectives.

- Obtain feedback about the use of process improvements. This can be done by regularly asking the opinion of the users and potential users by means of a questionnaire. For such an exercise specialized tools exist on the internet which enable the collection of the required information (nearly) free of cost. Additionally, users could be contacted by phone to provide their opinion on a number of agreed questions which relate to the effectiveness of the services rendered and how they match their operational needs. Either internal resources can do this or specialized call centres can be tasked to do so. As a third possible source of information, the subject can be put on the agenda of a meeting of private and public stakeholders in the Single Window. If such a body does not exist, the effectiveness and functioning of the SW can be put on the agenda of the National Trade Facilitation Body. If a major overhaul or extension of the functionality needs to be considered, then a special conference or seminar can be conducted on this topic.
- Make the best use of the organization's processes, methods, and tools by making them available to the people in the organization as appropriate. It is very important that the processes which link the SW to the Cross Border Agencies are well designed, effective and functioning. The different standard functions of the SW should be available to the whole trading community. Authorized traders benefitting from authorizations for simplifications should be given access to advanced functions relating to their simplification (e.g. delayed payment of duties and taxes covered by a comprehensive guarantee). The officials of the Cross Border Agencies should have access to the domains of their competence as required by their tasks. Staff in charge of the SW will have access to a wider scope of functions (e.g. to compile statistics on the use of the SW). Here it needs to be underlined that the allocation of the different access levels should

be based upon profiles approved by the management. Each user will be given access to the services defined in the profile attributed to him or her.

- Establish and maintain records of the organization's process-improvement activities. It is important that an audit trail is kept of all changes to the functionality of the SW. Beside the obvious need to have accurate information in case of dispute regarding whether processes have been executed in compliance with legal provisions, there is also the need to keep accurate records, which provide a complete history of the functioning of the SW over time, including all modifications. Such records will have great value in case technical or business problems are encountered. Specialized staff can then compare the processes before and after the change to discover any hidden problems or effects. In addition, the process documentation should be compared with the technical documentation to see whether the process changes have been correctly implemented in the ICT environment.
- ITIL provides substantial information on the change and release management to be implemented in the SW. The versioning and deployment of the new releases needs to be carefully tested and prepared. The the 'regressing' or rolling back to a previous version of the SW needs to be carefully tested. The possibility to roll back without problems to a previous version is part of the 'life insurance' of the SW. Without the possibility to use the roll-back option in case of operational problems, there is a real chance that the operations of the SW will need to be interrupted until the root cause has been detected and the required corrections have been implemented and tested.

#### c) Creating a mechanism for continuous improvement

As soon as the SW is operational, actions should be undertaken to evaluate the defining, piloting, implementing, and deploying of the SW processes. The results of these evaluations should be discussed with all stakeholders and made public. This will prove to be very valuable as further changes or extensions need to be applied to the SW.

- Beside the public availability of the evaluation results, actions must be undertaken to share and discuss them with the different services and officials involved in the overall SW environment. Therefore, this action should not be limited to the actual core SW officials, but should include all staff from the Cross Border Agencies involved in the SW.
- In terms of methodology to be applied for continuous improvement, it is recommended to appraise the processes, methods, and tools in use in the complete SW organization (including the Cross Border Agencies) and develop recommendations for improving the processes. This appraisal typically includes the following:
  - Determining compliance with the organization's SW specifications and guidelines. This action concerns improvements of the implementation of the agreed concept. Sometimes shortcuts have been taken by the business and ICT developers to meet the deadlines and respect of the project plan. Such deviations or 'interpretations' of the project documentation need to be identified and corrected. Beside the corrective actions, research could potentially recommend an update of the SW project documentation, changing the nature from correction to evolution of the SW.
  - Determining which of the processes, methods, and tools are of potential use to other parts of the SW organization. This action tries to identify if certain processes and functions of the SW in operation for certain procedures, can be applied to other SW processes or domains. This applies to either functions not yet (or partially) covered by the SW and its automated functions or to enable improvements to existing (automated) functions.

Appraising the quality and effectiveness of the processes. Here we are not referring to the correct implementation of a process in line with the SW specifications, but if the each of the processes are 'fit for purpose'. In other words, do the applied processes lead to the required results in terms of quality of service and in terms of reaching its business objectives. If the answer is (partly) negative, this should lead to a renewed analysis of the situation which involves the correctness of the formulation of the objectives and desired results, the translation of the objectives in concrete and correct formulated requirements, the correct translation of requirements into SW specifications and the approval process of the proposed new SW documentation.

### **KEY HIGHLIGHTS**

- Preparing a Single Window using a Single Window Roadmap based on 5 evolutionary stages:
  - Level 1: Development of a paperless customs declaration system
  - Level 2: Regulatory Single Window: Integration of Paperless Customs with other regulatory bodies issuing trade-related permits and certificates and documents
  - Level 3: Extension of the Single Window to serve entire trade and logistics communities within the airports, seaports and/or dry ports Port (adding a Port Community System)
  - Level 4: Fully Integrated Single Window: Creation of an integrated logistics platform linking administrations, companies and service sectors to better manage the entire chain of operations
  - Level 5: Cross-border Single Window Exchange Platform: Interconnection and integration of national Single Windows into a bilateral or regional cross-border exchange platform
- Importance of following project management steps for successful implementation:
  - o The preparation of a Feasibility study and its core components
    - Needs and potential
    - Organizational aspects
    - Human resources and training
    - Legal aspects
    - Technical aspects
    - Information and documentation
    - Impact assessment
    - Business model and implementation options
  - The preparation of a project management plan
  - How to keep track of the SW development and deployment
  - How to ensure quality of operations
  - o Creation of a mechanism for continuous improvement

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### SESSION 4 EVOLUTION OF A SINGLE WINDOW IN THE CONTEXT OF THE EURASIAN ECONOMIC UNION

# **1. Migration from a paper environment to a fully digital environment**

# **1.1 Understanding the similarities and differences between a paper-based and a digital environment**

During the implementation stages of a Single Window environment, a common question raised by business managers is how are supporting documents relevant, and what is the aim of streamlining the border procedures. Would all documents not simply be converted into data?

Indeed, the information available on documents will become available in an electronic format. However, one cannot forget that the information on documents comes in a structured format. Often documentary forms are the result of a lengthy historic process of gradual improvements, so that each form is best suited for its specific purpose. Therefore, a structured approach will also be needed in an automated environment.

Documents are instances of structured data that carry meaning with reference to a business process. Business data in transactional documents must move between documents. For instance, invoices and bills of lading contain information that "moves" into regulatory documents like a Customs goods declaration. "The WCO Data Model identifies 'Declaration' and 'Response' as the main elements of Crossborder Regulatory transactions. The electronic declarations made to the Single Window Environment contain the required information for the regulatory authorities to take regulatory decisions concerning import, export and transit of goods". (WCO, 2017)

The Declaration makes reference to other supporting documents attached to it, and additionally required. Such documents are relied upon and referred to with reference to the release and clearance of goods, means of transport and transport equipment. Supporting documents can be broadly divided into two categories:

(i) Key business documents that form trade and transport exchanges such as the invoice, packing list, purchase order, delivery note, bill of lading, consignment note, etc.

(ii) Regulatory documents such as licences, certificates, permits and others.

They allow the regulatory authorities to verify the declared information with external sources. Supporting documents provide certainty about the availability of information additional to that already provided in the Declaration. It would be preferable if the regulatory authorities and businesses wouldn't need references to other documents in their regulatory transactions. Only some of the more advanced Single Windows have integrated new services to overcome this kind of time-consuming secondary verification.

In advanced Single Window environments, routines for verification of supporting documents can be achieved by obtaining access to the systems that host the information that was previously available in the supporting documents. Such access to 'electronic documents or services' is, in fact, access to the structured data held in automated systems.

A Single Window environment could also function based on paper documents. The fact that all documents can be obtained or delivered at a single location is certainly an advantage. However, the organizational challenge and efforts required to ensure that all import, export or transit declarations documents need to be available should not be underestimated. In addition, since information is required multiple times, submitting it in a single location can help to streamline import and export procedures.

The countries that have already started implementing a Single Window environment should take all the steps of the automation process. If the required accompanying documentation is still paper based and managed by different authorities, the Single Window users will not be able to benefit from the full advantages of the automated environment.

### **1.2 Supporting Documents in the supply chain**

The international trade supply chain is a highly complex network of business relationships and business processes. Experts from both the UN/CEFACT and WCO have produced analytical models to depict the supply chain for different purposes. UNECE Recommendations (No. 33 to 36) and the WCO Compendium on how to establish a Single Window (Volume 2) provide detailed guidance in this regard.

In the figure below, supporting documents exchanged all along the supply chain can be analysed. They go with the goods and the means of transport from origin to destination, from the seller to the buyer, from the place of export to the place of import. From export to import, four levels can be seen:

The first level (L1) is the **customs formalities level** at the border. Declarations today are mostly electronically lodged by exporters/importers or their customs brokers.

The transport level (L2) may include multiple means of transportation, from the factory where the goods were produced and shipped to the delivery destination as required by the buyer. The transport level (L2) includes the stops for controls at the borders where authorities using controls apply automated systems operated by port or airport border management authorities for a cargo control, logistics or traffic purposes. In several countries, these are often the port and airport Cargo Community Systems. Α Cargo or Port Community



Source: Dematerialization & Paperless Processing, Part VI, Volume 2, (WCO, 2017)

System is a local federation of actors implementing a computerized workflow from the arrival to the departure of the goods, including the customs clearance.

L3 is the **Single Window** that facilitates simplified cross-border regulatory agencies procedures, which use dematerialized documents and data. All official requirements, including certificate requests (origin, licenses, quality, sanitary...) are collected. The 'One-stop shop' concept can result in the reduction of the number of physical controls. Limited exchange is envisaged between administrations.

**The commercial level** (L4) is the one in which sellers, buyers, banks, and insurance companies exchange the many supporting documents that Customs may require for the clearance of goods, or more generally after the clearance.

Supporting documents contain information about cross-border exchanges in international trade. There are several types of cross-border exchanges that take place in the course of international trade, as depicted in the diagram below.

Figure 3.11



In these cross-border formalities and information exchanges, cross-border legal provisions and jurisdiction is an important issue. While domestic exchanges are governed by national legislation, international exchanges are regulated by a combination of national laws of the countries involved, international commercial law and international agreements. In the flow of data across frontiers, issues concerning the legality, responsibility and validity of exchanges must have a solid legal basis.

Source: Dematerialization & Paperless Processing, Part VI, Volume 2, (WCO, 2017)

## 1.3 Steps to evolve from a paper to digital environment

According to the WCO Single Window Compendium (WCO, 2017) the following preparatory steps should be followed to achieve dematerialization of supporting documents:

- identify all supporting documentation required at a national level for regulatory declaration separating trade / transport and public sector
- establish an inter-agency task force with a mutually defined lead agency
- simplify business processes between agencies
- address legislative / regulation issues
- undertake the dematerialization process, including access requirements for private sector and solutions for supporting document data

The availability of the supporting documents and/or information to Regulatory authorities in real time at an address on the web is an important consideration for the dematerialization project. Instantaneous access with a mouse click will greatly facilitate control and cross-checking. To achieve this, the following is suggested by the WCO:

### Step 1. Referencing supporting documents in a regulatory declaration

Customs declarations such as goods declarations and cargo reports that are filed by actors at the transport and business levels should include references to the supporting documents. The WCO Data Model contains a grouping of data on supporting documents called "Additional Document". In the WCO Data Model, information on supporting documents could be provided at different levels e.g. at the level of the declaration, at the means of transport level, at the level of the shipment, as part of the regulatory goods item and at the level of the product. The WCO Data model documentation provides information regarding the data elements that capture information concerning supporting documents which could be included in any cross-border regulatory declaration.

### Step 2. Secure electronic repository of supporting documents

Additional documents need to accessible at a safe and secure location so they can be regarded as trustworthy. Such a facility should meet the accessibility, security and reliability needs of the parties involved. To formalize the arrangement of secure storage, the issuer or submitter of the supporting document may enter into a legal agreement with the subscribing party or the relying party to the document. The validity of electronic information must be equal to the validity of the valid original (often paper) declaration. The repository service, provided by a trusted service provider or government body, must keep the document accessible in repositories for all regulatory entities who need access and their designated IT systems. An archiving service needs to ensure access for as long as the goods declaration needs to be legally kept.

This repository service can be provided by a public service or a private sector body (e.g. banks, freight forwarders, brokers, individual companies, commercial secure storage companies). The access to private repositories could be aligned to trusted trader preferences and legal requirements. When considering port or airport Cargo Community Systems, documents or data related to transport will be made available to authorities. A global repository service can also be maintained by the National Single Window in charge of gathering all documents going with goods. The interface between the cross-border regulatory services and the storage providers repository should be defined (e.g. secured and standardized protocols).

### Step 3. Content of the supporting documents

Several internationally accepted and standardized electronic formats exist to represent supporting documents. The documents should preferably be stored (and remain accessible) in the standardized format. The different competent government services will have access to the data items and will be able to download—on a need-to-know basis (and therefore only if necessary)—the entire content or relevant parts of the document into the regulatory authority's system.

In an intermediate phase (where electronic documents are not yet present) as a temporary operational measure, parties may need scanned images of the supporting documents. In such cases the content of the supporting document cannot be processed by a machine as the relevant data are not dematerialized, but only available as an image. In such cases it might be required by law to archive the original paper documents, as the control of authenticity and integrity of many paper documents is based on signing and rubberstamp (with ink) or dry stamp. In the fully digital phase the legal value of the stamp will be replaced by a digital signature or any equivalent security measure foreseen by law (e.g. authentication, secured access, etc.), as indicated in step 5 below. A policy on dematerialization must address the question of a transitional arrangement to use scanned paper documents, and persuade the document issuing authority to move towards an eDocument that allows processing of the data it contains.

### Step 4. Accessing the supporting documents

The supporting documents stored in the secure repository can be accessed through a secure URL link mapped to the new data element "Document Location"

### Step 5. Digital signature of supporting documents

It is recommended that supporting documents that are dematerialized should be signed using a digital signature certificate. If not digitally signed, the regulatory authorities should keep a time and date stamped original as master copy of the document to protect its integrity during its lifetime. An incorrect fingerprint indicates that the document has been modified/corrupted. Electronic signatures should comply with XMLDSIG (or XADES) and be included in the e-doc. It is expected that the new blockchain technology will open new possibilities for providing access to trusted information.

# 2. The Single Window environment as a network of interorganization information systems

### 2.1 Digital information used by several authorities

When working on a dematerialization process, Customs and other Government Agencies need to have access to regulatory documents to be able to clear the goods. In most cases these are documents issued by an authority or Other Government Agency (OGA) working in partnership with customs.

For operational reasons, it is necessary that the IT systems belonging to the main OGAs are connected to the communication network and can exchange data with customs in order to enable them to release the goods. This scheme is based on the circular flow of trust between Customs and international authorities like CITES<sup>43</sup>. For example, a CITES certificate is issued by the export CITES authority. This

information is sent to the import-side CITES authority. The export customs need to access to the dematerialized CITES certificate mentioned in the export declaration. It is the same for the import customs. enable quantity То management, customs needs to be able to CITES update the database modifying the real exported/imported quantity.





(Source: How to Build a Single Window Environment Volume 2, WCO, 2017)

# 2.2 Managing a new chain of trust for electronic data exchange across organizations

The dematerialization of cross-border information will have an increased value if it is part of a setup that makes access to the information possible on both sides of the border. To increase its operational value, it should be part of a scheme used as a chain of trust by all organizations that need access to the information. Such an arrangement will probably be based upon an international agreement. For example, in the case of dematerialization of CITES (phytosanitary certificates, certificates of origin etc.), until the connection between export and import authorities is available the import authority may have to formalize an understanding with the export authority to guarantee the authenticity of an electronically signed document circulating between export and import.

<sup>&</sup>lt;sup>43</sup> Convention on International Trade in Endangered Species of Wild Fauna and Flora: https://www.cites.org/

An e-doc is trusted if its digital signature is valid. This means that the e-doc has not been altered (integrity), and the issuer of the e-doc is safely authenticated. It is easy to check the integrity of an e-doc, but a trust scheme is needed to authenticate the signer. In the absence of detailed common rules on authentication and digital signatures, an approach using a Valid Certificate List (VCL), in combination with automated checks, is proposed to provide an answer to the time-costly (and often not carried out) manual

Figure 3.13 Import customs has access to e-doc and integrity/authenticity controls



(Source: How to Build a Single Window Environment Volume II (WCO, 2017)

controls of paper documents. The required checks could be as follows:

- The signature is cryptographically correct
- The certificate used for the signature belongs to the VCL
- None of the certificates of the certification path are revoked

In the coming years, blockchain technology, which combines trusted encrypted information (that cannot be modified) with availability to all stakeholders on a 'need-to-know' basis, may further provide an affordable solution to this challenge.

This VCL, storing all the approved e-certificates, can be implemented on the export or the import side and used to certify the authenticity of the signatory. The following are important rules for usage of digital information across organizations:

- E-documents will be referenced in customs declarations
- These references will identify the permanent location of the storage of the e-document
- Digital signatures are a means for maintaining authenticity and integrity of the data
- The relying parties (origin and destination countries) agree to accept the national Certifying Authority's (CA) certificates issued to the e-doc issuing authority
- The signatures and the archived information are long-living and will be valid beyond the life cycle of the certificate or the Certifying Authority.
- Competent authorities can download e-doc information as and when they need.

# **3.** Cross-border Single Window environment and exchange platform in the framework of the EAEU

The Kyrgyz Republic and most other Member States of the Eurasian Economic Union (EAEU) have, or are planning to implement, a national Single Window for Trade, which provides a harmonized environment within for traders and enables data exchange. Efforts are ongoing to create a cross-border Single Window Environment in the EAEU which would offer a regional exchange platform for trade-related information (from public and private sources). This section of the fourth session on Single Window aims to contribute by providing necessary insights and offers information and ideas to take into consideration for making progress on this plan.

When defining an approach to move successfully from separate national Single Windows into a regional Single Window environment (where all parts are compatible) one needs to do a fundamental review of the data architecture, the underlying processes and the technical architecture. Only this way can a structure be created that produces a harmonized environment which enables data exchange between the different Single Windows in the region. Such an integrated Single Window environment will produce the trade facilitation effects that lead to the main objectives of increased regional trade, better employment and an overall increase in the economy of the whole region.

When speaking about the future of the Single Window mechanism in the EAEU, it is important to mention the outcome of a conference jointly organized by the Eurasian Economic Commission with ESCAP and UNECE called "Single Window on the crest of a new technological order" held at the Moscow State Lomonosov University in December 2017. The following recommendations were discussed:

• The development of the Single Window mechanism should go beyond accepted international standards and recommendations, which currently do not consider the opportunities provided by

breakthrough modern technologies; the Single Window mechanism should be considered as a digital ecosystem in the area of international economic activity—linking different segments of international trade (B2B, B2G, G2G, S2S).

- Digital transformation has become an urgent item of the digital agenda of the EAEU countries
- Digitalization gradually breaks the established processes in the relationship not only between the
  actors in international economic activity and the state, but also at the level of business interaction
  among themselves (B2B), and at the interagency (G2G) and interstate (S2S) levels.
- The format of these interactions is largely based on the principles developed by the member states in the previous decades and, precisely, in the process of creating national models of the Single window.
- The development of the principles of the Single Window on national and regional digital platforms will require active participation from both the business community and the state.
- Under the current conditions of the digital transformation, the development of a regional Single Window project becomes an opportunity not only for the digitalization of international economic activity, but also becomes a testing ground for discussing, developing and promoting the principles of data management, and the processes of interaction in the sphere of trade and other branches of the economy.

### 3.1 Data architecture

The following chapters in this session are based on the WCO Compendium Single Window Architecture, PART VII. VOL 2, which highlights the following:

[A] Single Window Environment brings together a number of information systems that interact with each other. In order that these information systems work together and interchange data in an efficient manner, there is a need to produce the common information architecture. This architecture is essential in order that the conflicts between data are eliminated and each of the participating systems in a Single Window is conformant."

Different national Single Windows in a given region are often found to be operating IT systems based on different technology platforms, divergent business processes and data definitions—making it difficult to produce interoperable systems. In this context, it can be challenging to build information systems that interact and need to evolve following the digital developments. It is common that this starting position contains conflicts occurring between information models of participating agencies and countries. For example, in the European Union the different standard datasets of the involved agencies contain multiple definitions of the term "exporter" in different governmental systems, not to mention similar (but not identical) terms for such as sender, consignor, owner, etc.

In addition to conflicts in definition, codes are often used for overcoming language and technical barriers which leads to conflicts in the way the definitions are represented by codes. Not only the code itself could be different, but also the format. For example, the coded representation of "exporter" could be numeric with a maximum of 13 characters in one system and alphanumeric with a maximum of 15 characters in another. Structural conflicts could occur when information used in one system is structurally different from those that are used in another system. Content conflict could occur when two parties use different sets of values for the same component – different sets of components (e.g. when codes used for units of measure and unit of quantity are used interchangeably). Encoding conflicts occur when different types of syntax are used. Even when the same syntax is used, if there are structural differences (for example, the structure of an address) it is not possible to share information.

The conflicts can be resolved only when a common data (information) model is used by all participants. To overcome this kind of challenge in a Single Window environment, it is recommended to use standard data architecture defined at the international level. The WCO Data Model has defined the generic content of information for cross-border regulatory agencies in the WCO Data Model. Therefore, this model goes beyond Customs requirements and offers a Data Model that provides a standardized approach for all Single Window related information and agencies. The WCO Data Model also takes into account earlier existing international standards such as UNECE Recommendation 34 and the Common Core library (CCL). By aligning with the WCO Data Model, Cross border regulatory agencies can produce and use common content, semantics, syntax and structures for the Single Window Environment. Therefore, Single Window Data Harmonization needs a methodical approach to collecting, defining, analysing and reconciling information for a Single Window Environment. The easiest way to do so is by adopting the WCO Data Model for the full Single Window environment in all agencies and all participating countries.

### **3.2 Technical architecture**

The technology architecture describes the arrangement of technology components such as the interface components, security components, messaging, workflow architecture and database management components. All these elements are supported by infrastructure components such as hardware, software platform (operating systems) and networking (infrastructure).

Using the analogy of architecture in real estate, it is nearly impossible to effectively build or maintain a large building (such as a 25 floor skyscraper) without being in possession of accurate detailed architectural documents containing the blueprints for different structural aspects such as plumbing, electrical wiring, heating, cooling and a variety of other systems and subsystems. In exactly the same way, a regional Single Window Environment cannot be effectively built in a multi-agency setting without knowledge of their architecture. Most managers understand the structural components of their organization through their organization charts, where it is easy to locate functional units (such as operations, enforcement, audit, statistics, policy etc) and the reporting relationships and hierarchies. It is possible to draw multiple architectural views depicting the different aspects of the functioning of the core businesses in the participating organizations, with each view providing distinct value to the process of building and maintaining SW systems. Enterprise Architecture is the discipline that examines these views.

In the event of a breakdown, the building manager keeps the relevant blueprints handy for the repair activity. These blueprints are even more vital for major renovation or refurbishing activity. Likewise, to support the strategic management process of the SW as an enterprise, it is necessary to produce and maintain the relevant organizational, data, process and technical blueprints. One of the main reasons for investing in enterprise architecture is to ensure that the ICT systems are correctly and efficiently conducting the strategic SW activities. Enterprise architecture provides the strategic context for the deployment of ICT systems. This is one of the ways to ensure that the SW executive management understands the value of a standardized structured approach and its indispensable role in achieving the strategic goals.

Investment into a Single Window without having the enterprise architectural view is very risky and not recommended. For example, as the Single Window functionality and number of operations grow over time, ICT systems need to be in line with the organization's evolving requirements. Evolutions also need to fit with the already existing operational systems and procedures.

Together, these capabilities and resources define common standardized ways of doing business by both government agencies and the private sector organizations within the region. Therefore, it must be accepted that a Single Window environment moves away from a purely national and intra-organizational 'command and control" operation to a new approach composed of collaborative exchanges between all stakeholders (private companies and government agencies in each of the participating countries). Because a regional Single Window environment project has a disruptive impact on the current way of providing services, attention should be given to information and training to ensure all are on board to support this initiative.

To understand how the shift to a Single Window environment mode of operating can be achieved, it is essential to produce for each country a rigorous description of the structure and functioning of each of the participating Cross-Border Regulatory Agencies, their components and their inter-relationship. Such a description should include the following:

- Organizational structure, roles and goals in relation to meeting the objectives of cross-border regulation
- Business processes, business information flows and information systems that participate in service delivery

The specialist task of producing such detailed business documentation is that of an enterprise architect. Enterprise architecture is a discipline that specializes in providing an architectural system solution, which prepares for the production of the ICT strategy based on business strategies and provides the background for the organization to improve its effectiveness. The essence of Enterprise Architecture is in finding a way to implement the business imperatives of the enterprise and the creation of technology in order to achieve an ideal way to combine the two in a fit-for-purpose solution. Such an alignment enhances the possibility for an optimum use of available resources by means of lean processes, implemented using adequate technology. Enterprise Architects help streamline the business and the organization's use of Information and Communication Technology (ICT) to ensure high Return on Investment (ROI) and low Total Cost of Ownership (TCO), including at the operational phase.

In general, trade facilitation reforms depend on political will. Ideas and initiatives such as the Single Window environment need strong political support over sustained periods of time. Sound enterprise architecture proposals can help in uniting divergent forces and forge a consensus on the common needs.

A country or region's motivations for reform can find a voice in enterprise architecture proposals. Architectural blueprints help to identify, in a concrete manner, the agreed future and course of action.

### 3.3 Service Oriented architecture applied to regional Single Windows

The regional Single Window Environment will support the core regulatory formalities required by all government agencies at import, export and in transit—while offering trade facilitation advantages. The services offered by a regional Single Window are predominantly enabled by streamlined processes, standardized data and the information and communications technologies (ICT) solution. The appointed Single Window operators provide and support the implementation and operation of these services on behalf of all cross-border regulatory agencies (CBRA) through either a distributed or a common platform. Broadly, these services result in the regulatory clearance of goods, means of transport and crew by means of the Single Window infrastructure and services.

The service-oriented approach provides several useful technical and managerial tools for functioning in a regional environment while building a Single Window Environment. The detailed analysis of Single Window Services allows for the break-up of larger services (business-oriented services) into smaller or even micro-business services. These business services are supported by ICT application services running in an adequate infrastructural environment.

To illustrate, the service to process import and export goods declarations is dependent on a risk management service that selects in, an automated way, consignments for documentary and/or cargo examination. For examination to occur, the service must consider the number of staff on duty and regional, national and local profiles, as well as recent information about irregularities. For each of these elements, it will need to be possible to update the information in view of operational evolutions.

At the outset, the Single Window services were designed and created in a national environment, and were not designed with an international context in mind. The task will be to compare and integrate business processes in order to join up (in a second phase) the national services into an integrated international environment. These tasks will need to be documented carefully to enable reviews by stakeholders and to ensure a future evolution, where required.

Where the national 'as-is' situation is well documented, most of the effort can focused on building the 'to-be' situation for an international environment. A clear description, completed by the new or updated documented business processes will very much help all stakeholders to better understand the future setup and to engage in discussions about the future enterprise architecture and infrastructure setup.

While each service or trade association will have its own point of view, and services or traders from the same country will have a national view, the real purpose of the service-oriented architecture exercise is to create an integrated regional view where all stakeholders have a view into how they will function in the new regional environment. This environment will need to be able to cope with an increase in regional trade and be flexible enough to adapt to new requirements or corrections.

In a service-oriented architecture the services need to be designed in a way that they can be reused wherever possible. This applies to the business services, such as sampling, selection, payment, guarantee management or physical inspections as well as to statistical, technical and other functions which can be applied in different places and circumstances within the framework of the regional Single Window. Ideally this will manifest itself in software components which can be copied and used at several points in the project.

These services are interconnected by API (application programming interface) which enable the coupling of services and/or modules to interconnect with one another. In this way, the different modules and services are much more flexible and can be replaced easily without a total reengineering of the (hard coded) application. It is a modern approach which fits very well the business need in a Single Window environment. Services in a Service Oriented Architecture (SOA) environment can be orchestrated, which implies that each service can be individually rearranged to better suit a business or technical purpose. This is of considerable value in managing business processes in a complex regional Single Window environment. Services depend on standardized messages (and standardized data which are the building stones of the messages) to work together, to be interoperable and to work across platforms. These messages should be reliable and secure and based on international industry standards in order to produce the required services for the regional Single Window.

### **3.4 Implications of Service Oriented Architecture on Single Window integration**

A Single Window Environment involves the exchange of electronic information (often referred to as electronic documents) composed of data units, using standard interfaces (API) and/or communication interfaces such as web services between the trader's systems and governmental cross-border agency

systems. Standard communication interfaces need to be developed, agreed and documented for communications to be able to take place between different service components. Web services are based on international standards, mainly managed by the World Wide Web Consortium (W3C). Examples of these services are: Web Service Description Language (WSDL); Extensible Markup Language (XML); Simple Object Access Protocol (SOAP); and Universal Description, Discovery and Integration (UDDI).

It is useful to visualize Single Window as a collection of business services which form nonoverlapping business processes and hierarchical structures. This helps to understand the composition of services in terms of ICT components. To summarize, the use of Service Oriented Architecture (SOA) is recommended for building the Single Window Environment for the following reasons:

- a. SOA is built based on the notion of availability of services which jointly compose the required product. Single Window, being a collection of Services, makes SOA an attractive conceptual basis.
- b. Management understands the concepts of service operations—service availability, service quality, and cost of services. SOA clearly identifies with these concepts and brings them to life.
- c. Single Window Environment involves the integration of multiple systems for which investments were made by a number of agencies. SOA facilitates integration by means of communication services and has the perspective of ICT architecture integrated.
- d. SOA can be designed to be event or trigger driven. Each event in the supply chain would trigger a new step in an incremental flow of data. Depending upon the state of the transaction, different players can access different sets of data to enable them to progress in a Single Window Environment.
- e. SOA development is aligned with the software support lifecycle, it enables integration (up to a certain point) and assembly of disparate software components, helping in joining existing applications and infrastructure.
- f. Services are not seen to belong to a particular, nearby presence of infrastructure, system or network. Therefore, the usage of services is provided for by a software application that handles the services within the Single Window Environment, regardless of the location of the system—as long as it is connected to a network. Stakeholders cannot access all services, but only the ones they have been mandated to access. Appropriate authentication and authorization based on a range of profiles can be supported at various levels. It ensures every level has a dynamic connectivity and organization between services.
- g. Single Window, by nature involves composite services. SOA provides the ability build complex applications based on the composite requirements of the different agencies involved.
- h. There is a need to build a common structure of services and information process models across the agencies and countries involved.
- i. It is recommended to avoid using proprietary software and systems in order to enable the interconnection of the needed services. Using open international standards to build standardized services operating in a standardized technical environment delivers better business value than those delivered by proprietary applications.

One of the findings emerging from WCO studies is that success in developing a Single Window environment depends on the ability to identify and establish the basic services that run across government departments, and convert them to utility-grade services which are:

- Widely used and valued within the Single Window user community;
- Highly standardized and cannot be customized easily;
- Highly available and fail-proof;
- Simple to access using known and openly available interfaces;
- Supported with commonplace skills.

Examples of these type of basic services are (trusted) trader identification management, authentication management, electronic messaging, transaction routing, document workflow, document repository services, registration services, payment services, regulatory information services for products, product classification, identification services for cargo, containers, and means of transport etc. To support these cross-border business services, SOA provides the architectural paradigm.

In the context of the service-oriented architecture of an organization, the enterprise architect is the producer of the master plans for the Single Window Environment. The enterprise architecture describes the different architectural views that can be prepared to support the high-level planning of a Single Window solution. To support the strategic management process of the 'enterprise", it is necessary to produce and maintain the relevant business processes, data models and organizational blueprints.

One of the main reasons for investing in Enterprise Architecture is to ensure that the services designed are responsive to the strategic activities of the organization and provide the strategic context for

the deployment of IT systems. SOA is one of the ways to ensure that the executive management understands the value of enterprise architecture, which supports the ICT in its indispensable role in achieving the strategic goals for the organization. IT investment without having the enterprise architectural view is very risky because it would automate an imperfect or immature business environment.

The WCO Data Model provides the definition of all data elements needed for the Customs and cross-border regulatory agencies, and forms an excellent foundation for the data architecture. The WCO Data Model supports the way data are defined and used in the business processes of international trade. The latest version of the WCO data model is a valuable tool for creating a structured functional model for Single Window as it also provides data for the needs of other government agencies and is compatible with other international standards (e.g. United Nations). In the framework of a regional Single Window the resolution of data differences can be solved by agreeing to use international standards such as the WCO Data Model.

Finally, the central idea is that enterprise architecture can help to bring together divergent forces in the forging a consensus on the common needs for a standardized environment. Architectural blueprints help project participants identify with something concrete, and come to agreement on a future course of action. Visualizing the Single Window as a collection of business services applied in an ICT environment helps to understand service composition. Technology platforms and applications used for SOA implementation may vary, but all have the underlying philosophy that favours loose coupling of services. This SOA approach has implications for the cost of ICT platforms and operations—and consequently the cost of services—which is a determinant of the Return on Investment.

# 4. Regional Single Window example: ASEAN

## **4.1 Characteristics and timeline**

The proposed simulation of an evolution from the current situation (from implemented and national Single Window functionalities) is based upon experiences and lessons learned by the Association of Southeast Asian Nations (ASEAN) Single Window. This is a similar project, initiated in 2003 and 2004 at the ministerial level in the ASEAN countries situated in South East Asia. The ESCAP and UNECE brief: "Towards an Enabling Environment for Paperless Trade" (2015) describes the project in greater detail.

The objective of ASEAN Single Window (ASN) is to facilitate trade by expediting cargo clearance, within the context of increased economic integration in the region, by providing an infrastructure for electronic data / information / document exchange and communication among participant states. The core characteristics are:

- The National Single Window (NSW) of a member state is the national gateway that serves as the single point of connectivity and communication with other member states' NSWs in the ASEAN SW environment;
- The regional Single Window will connect NSWs by providing a platform for electronic transactions within the region. The network infrastructure will ultimately provide an international gateway, connecting to other national or regional Single Windows;
- Trade data between the sender and the recipient(s) are maintained and owned by the parties concerned and will reside in the national domain, which is under the purview of the respective member state

To provide an idea about the time needed for a regional SW, major milestones of the ASW Implementation (derived from the above-mentioned briefing note) are provided:

- February 2010: Completion of MoU on the implementation of the ASW Pilot Project
- February 2011: Completion of architecture design of the ASW
- August 2012: Completion of Sustainability Study
- September 2012: ASW/NSW Symposium
- March 2013: Completion of Scaled-down ASW Pilot Project for connectivity testing between ASW gateways
- May 2013: Launching of the ASW web portal
- December 2013: Business Process Analysis for regional transactions
- September 2014: Completion of final draft of ASW Legal Framework Protocol
- 2015 2017: Countries join ASW operations upon completion of national tasks

• This time table shows clearly that creating a regional SW is a challenging task with a multi-annual preparation and implementation horizon

# **4.2 Expected benefits**

The ASEAN SW is expected to provide various benefits to government and business such as:

- Pre-arrival information received through the Single Window will enable border control officials to begin risk management on electronically processed information before arrival of goods so that subsequent clearance of physical cargo will be expedited.
- Electronic cross-border data exchange through the SW could support a customs transit regime providing uninterrupted overland connectivity and facilitating movement of goods across the borders.
- The Single Window will help improve the track-and-trace capability of documents as the physical cargo moves across borders.
- The regional services of the SW ensure synchronized control and standardized reference tables among participating governments.
- The SW helps to harmonize regional procedures and encourages member states to carry out business process re-engineering to streamline procedures at the national level.
- The SW ensures compatibility of all participating member states with international open communication standards and ensures that each of those member states can exchange data securely and reliably with any trading partners that use the standards

# 4.3 Lessons learned from the ASEAN Single Window

As in many regional projects, it is crucial to have the commitment of the Heads of State, including the trade and finance ministers, to kickstart and support on-going work and, for the development and implementation of the ASW. Subsequently, in the process of ASW development specific lessons were learned such as:

- A clear and feasible vision from senior officials was necessary. For example, a regional SW system for centralized processing of all forms for all countries in a region may not be a practical objective due to the following reasons:
  - high volume of transactions will jam up a centralized system, leading to issues of system capacity and performance;
  - a centralized system poses a high risk of a single point of failure;
  - o data confidentiality could be compromised as it passes through third-party hardware.
- It was essential to have organizational structures (for relevant officials to discuss and agree to functionalities and other technical and legal matters) such as a Steering Committee for decision makers; a Technical Working Group for technical officials to discuss technical matters and implementation activities; and a Legal Working Group for legal officials to discuss legal matters.
- Intellectual leadership is important to provide fresh ideas and learn from others' experiences. If a
  leader of a working group has an innovative mindset and expertise in areas such as the Single
  Window environment, cross border paperless trade, customs processes and trade facilitation,
  he/she will have a broader perspective on matters raised by members, moderate the discussion
  more efficiently, and be able to share new ideas or ideas learned through networking with other
  experts. As a result, members have clearer vision.
- Legal gap analysis for a Single Window environment at the national level (including looking at impediments to cross-border exchanges) should start as early as possible because issuing new or amended legislation can be a very lengthy process. Regional legal impediments should be reviewed as early as possible, for example, the existing procedure under the ASEAN Trade in Goods Agreement impedes the realization of paperless forms as a manual signature of the approving party on the paper document form is required. The amendment process to enable the acceptance of a digitally-signed electronic form could take time. If the issue is not resolved for the end-to-end testing, it will have adverse impact on the full-fledged ASW Pilot Project and subsequently the ASW 'live' implementation.

# 4.4 Main expected challenges for the creation of an EAEU Single Window

Many challenges will need to be overcome in the EAEU SW development and implementation such as:

- To obtain a decision-making mechanism (e.g. based on consensus) with five member states at different levels of economic development, size and geographic circumstances. The interest and expectations may be diverse and coming to terms with each member state's objectives on various matters can take time.
- Although a new EAEU Customs Code exists, individual member states still have some national customs legislation to implement, as well as different levels of automation, and it takes time to have all member states ready at the same level for the regional SW 'live' implementation.
- Planning and preparation costs could be high and up-front financial support is required. Thus, financial constraints remain an issue and implementation of a Pilot is very much dependent on pre-financing at the government level.
- Operating and maintaining the SW at the regional level will require more than Information and Communications Technology personnel to manage the SW Regional Services and the SW network. It will require, among other elements, a sustainable source of revenue, a budget to manage expenditures, and agreed location(s) to house human resources and the Regional Services server. Decision-making on the agreed business model to govern and sustain the SW operation could some time.
- Effective regional and national SW Legal Frameworks (e.g. mutual recognition of digital signatures, functional equivalence of paper and electronic documents, data confidentiality, liability, etc.) need to be in place, and such legal matters tend to be complex.
- The NSW is one of the pre-requisites for regional SW implementation, and that implementation has many of its own sub-challenges (e.g. political will, national champion, business process reengineering, data harmonization, public awareness, involvement of government agencies other than customs, etc.).
- Finally, business process re-engineering needs to be carried out to streamline cross-border processes, followed by data harmonization. Apart from having to get all member states to agree on the regional processes, sourcing of expertise for these tasks is difficult and usually requires significant financial support.

### KEY HIGHLIGHTS

- A Single Window system based upon paper documents is possible, but not as effective and cannot generate the expected benefits. Most countries are underway in automating the different functions. The digitalization of the supporting documents is a huge task.
- ✓ It is recommended that the implementation or evolution happen in 5 steps: referring to the supporting documents in the declaration; creating an electronic repository for the supporting documents; ensuring digital content of the supporting documents can be processed and has a solid legal basis; enabling access to the digital documents; ensuring a digital signature.
- In many cases the digital information needs to be accessible by several authorities and a number of rules need to be respected to ensure quality operations.
- ✓ The creation of a regional Single Window environment in the EAEU requires a very organized approach and the definition of an architecture at different levels.
- ✓ The architecture of the data, technology and services needs to be defined and implemented.
- Service Oriented Architecture provides a well-documented approach which is recommended for many reasons.
- ✓ A regional Single Window environment can be easier put in place if the 5 steps above are followed.

### References (Module 3: Session 4)

ESCAP and UNECE (2015). Towards an Enabling Environment for Paperless Trade, Brief No. 13 (May). Available from <a href="http://www.unescap.org/sites/default/files/brief13.pdf">http://www.unescap.org/sites/default/files/brief13.pdf</a>

WCO (2017). Single Window Compendium Volume 1 and Volume 2. All Parts of this compendium reference in this session can be individually accessed from the following link: <u>http://www.wcoomd.org/es-es/topics/facilitation/instrument-and-tools/tools/single-window-guidelines.aspx</u>

The sections of this document referenced in this session are the following:

- Dematerializing and Paperless Processing. WCO Single Window Compendium Volume 2. Part VI.
- Single Window Architecture. WCO Single Window Compendium Volume 2. Part VII