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ESCAP TRANSPORT FACILITATION MODELS – A NEW PARADIGM FOR COOPERATIVE BORDER MANAGEMENT[1]

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Abstract

The paper considers significant issues of cooperative border management that has been in vogue for some time now under similar names such as coordinated border management, collaborative border management, comprehensive border management, and integrated border management. The author states that, despite the difference in letter, the spirit of all of these approaches is to facilitate trade and transport across the borders while instituting regulatory controls.

However, as the author emphasizes, many years of experience in implementing these approaches particularly in the Asia and Pacific region, indicate that cooperative border management and its other variants though easy to conceptualize pose numerous challenges during execution. The findings of the study confirm that, as a result, there is a continual search for solutions that can address increasing and pressing concerns of control authorities on one hand, and rising and expanding trade and transport on the other.

Further, the study describes the models developed by ESCAP (Economic and Social Commission for Asia and the Pacific) which provide a result-based framework for cooperative border management as a means to achieve seamless transport across borders.

To discuss fully the key subject, the author used the following scientific methods: analysis, synthesis, comparison, generalization.

By focusing on results and identification of bottlenecks en-route and at border crossings, coupled with technological solutions as well as flexible and practical arrangements for transport, in author's view, the implementation of the systems based on the models will promote cooperation among agencies to reduce inordinate delays at the border crossings.

The author concludes that cooperation among border agencies is inherently intractable due to multiple factors, but, nevertheless, with the result-based framework for cooperative border management as provided by ESCAP transport facilitation models the enhanced cooperation among border agencies is possible with attendant benefits to all the stakeholders.

Key words: cooperative border management, the border crossings, inter-agency cooperation, ESCAP, trade facilitation, ESCAP transport facilitation models.

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[2] The views expressed herein are of the author and do not necessarily reflect the views of the United Nations

Introduction

Fifty years ago emerging markets and developing countries contributed to a quarter of global output; today their share is nearly 50% and is rising rapidly. Estimates by International Monetary Fund indicate that within the next decade their share will be around two-thirds. The shift in global economic power from west to east has already seen heightened economic activity in the Asia-Pacific region that will further intensify, with focus now on intra-regional trade rather than on exports as has been the case hitherto.

The shift in focus poses a formidable, but nonetheless, surmountable challenge for the countries. Basic to boosting intra-regional trade is to strengthen transport connectivity within and among various subregions, as one of the major impediments to trade, is the high transport costs due to inadequate infrastructure and weak institutional connectivity. This paper is divided into five sections; following this brief introduction the role of United Nations Economic and Social Commission for Asia and the Pacific (UN ESCAP) in developing regional connectivity – both physical connectivity or "hardware" and institutional connectivity or the "software" is discussed.

The fact that non-physical barriers continue to pose challenge to seamless connectivity and need to have a comprehensive approach to address them is emphasized. Next section is on cooperative border management and its variants; various extant approaches to cooperative border management and important legal and policy instruments for cooperation among border agencies are briefly discussed. The section also indicates need for an operational framework for cooperative border management. Section 3 describes the ESCAP transport facilitation models and how they provide a result based framework for cooperation among the border agencies. Section 4 explicates on the key features of the recent WTO Trade Facilitation Agreement and underscores the fact that the policy prescriptions provided in the agreement though essential, are not sufficient for cooperation among the border agencies. The models developed by ESCAP provide an architecture under which the not only the customs formalities can be simplified but also the requirements of other border agencies can be simultaneously met.

1. ESCAP role in development of transport connectivity

1.1. Development of physical infrastructure

Various countries are making sustained efforts to ramp up their transport infrastructure by investing in missing road and rail links, the work which is ably supported by international organizations, such as ESCAP and development banks in the region. ESCAP in particular has supported development of inter-governmental agreements on Asian Highways Network, Trans-Asian Railway Network and Dry Ports to realize the vision of an international, integrated and intermodal transport and logistics system for the region as envisaged by its members. These agreements have provided a sound institutional framework for the countries to coordinate development of transport infrastructure so as to have a synergistic impact on transport connectivity in the region.

1.2. Institutional connectivity continues to pose challenges

While the infrastructure is perked up, there is an imminent, need to address the institutional connectivity to reduce the inordinate delays that happen at the border crossing due to elaborate, repetitive, uncoordinated and often cumbersome procedural requirements of border agencies of which Customs is most conspicuous face. Some of the significant non-physical barriers that impede the movement of goods are cumbersome border crossing formalities involving repeated inspections of goods by different agencies, excessive documentation, non-transparent rules and regulations and frequent changes in them without informing the concerned parties, different technical standards for vehicles, restrictive visa procedures for drivers and crew, different procedures for temporary admission of vehicles, non-accession to various international conventions by some countries in the

region leading to contiguity problems, numerous and sometimes overlapping transport agreements having potential for legal conflicts while implementation.

1.3. Need for comprehensive approach to facilitate transport

To address the non-physical barriers, many countries have acceded to the related international conventions or have entered into subregional/bilateral agreements to facilitate road transport. However, these legal instruments especially the agreements take long time to negotiate and ratify. Furthermore, most facilitation efforts have been undertaken in relative isolation leading to patchy results, while some facilitation measures could not be implemented due to range of institutional reasons and above all conflicts appear during implementation of international conventions, numerous agreements and municipal laws leading to status quo and at worst further deterioration in the situation.

On the whole, the progress on transport facilitation has been tardy not only due to non-physical barriers but also due to operational challenges control authorities face. Recognizing the need for an integrated and comprehensive approach to address non-physical barriers, ESCAP undertook a study on these issues in 2011. Based on the findings of the study, it proposed a regional strategic framework for facilitation of international road transport[3] that identifies six fundamental issues in international road transport and possible solutions to address them. It also provides seven modalities to support smooth road transport in the region. The framework was adopted by ESCAP member states during the Ministerial Conference on Transport held in March 2012 in Bangkok and serves as a primary policy document for member countries and their development partners to plan and implement transport facilitation measures.

2. Cooperative border management – variants and approaches

One of the most important non-physical barriers affecting international land transport is the inordinate delays at border crossings. The delays at the border crossings are due to many reasons, but in most cases are aggravated due to lack of coordination and cooperation among border agencies. Each of these agencies has a different mandate with regard to goods and people crossing the borders. More often than not, these agencies work independently, without a full understanding of what the other agencies are doing and without regard to the consequences of multiple inspections of the same goods. The results of the intervention by different agencies are obvious: long delays at the borders and attendant costs which ultimately raise the cost of the goods making them uncompetitive. Therefore, there is an imminent need for cooperation among different agencies at the border crossings. Because of the obvious advantages of such cooperation, numerous initiatives in this regard, have been developed by various international organizations. European Union (EU) has a program for integrated border management, the World Customs Organization (WCO) suggests coordinated border management, the World Bank calls it collaborative border management, and Organization for Security and Cooperation in Europe (OSCE) has border security and management concept called comprehensive border management. These concepts are briefly reviewed here:

2.1. Cooperation among border agencies – Concepts

2.1.1. Integrated border management

The European Commission guidelines for Integrated Border Management (IBM) in the Western Balkans (EC, 2007) define the concept as follows: "IBM covers coordination and co-operation among all the relevant authorities and agencies involved in border security and trade facilitation to establish effective, efficient and integrated border management systems, in order to reach the common goal of open, but controlled and secure borders." The Global Facilitation Partnership for Transportation and Trade defines Integrated Border Management as follows:

[3] http://www.unescap.org/resources/regional-strategic-framework-facilitation-international-road-transport#

"Integrated Border Management is the organization and supervision of border agency activities to meet the common challenge of facilitating the movement of legitimate people and goods while maintaining secure borders and meeting national legal requirements."

The focus of IBM is on the security of borders, while facilitating legitimate movement of goods and people and this is achieved through interagency cooperation, the core element of the IBM. This requires politically mandated and powerful agency to lead such cooperation. Due to challenges in interagency cooperation IBM has met with partial success and being implemented in various degrees in many central Asian countries.

2.1.2. Coordinated border management

The concept has its origins in the WCO instruments the Revised Kyoto Convention (RKC) and the framework of standards to secure and facilitate global trade (SAFE framework). These conventions have provisions such as juxtaposed offices, joint controls and standards for single window. The WCO strategy document on Customs in the 21th century adopted in 2008 lists it as one of the 10 key building blocks for managing borders. It further calls for coordination and cooperation among all the relevant authorities and agencies involved in border security and regulatory requirements for passengers, goods and conveyances moved across the borders. In the research paper published by WCO[4] the concept is further clarified: "Coordinated Border Management (CBM) refers to a coordinated approach by border control agencies, both domestic and international, in the context of seeking greater efficiencies over managing trade and travel flows, while maintaining a balance with compliance requirements. While many organizations refer to this as "Integrated Border Management", the World Customs Organization prefers "Coordinated Border Management' as it gives prominence to the principle of coordination of policies, programs and delivery outcomes whilst avoiding any perception of favoring a single solution." CBM therefore is seen more as guiding principal for border agencies rather than providing any practical solution for them to cooperate.

2.1.3. Collaborative border management[5]

The World Bank in its book "Border Management Modernization" describe the concept of "Collaborative Border Management" as an approach to border agency coordination where the focus shifts from physical control of goods to control of information about them. This shift along with focus on customer segmentation, intelligence driven risk management and networking arrangements allow border management agencies to cooperate in terms of agreed standards. The concept avoids threatening connotations of the organizational integration that may arise from implementation of IBM. Organization integration needs to be treaded carefully as it requires 'significant organizational change' and may create problems as various agencies struggle to retain their identities and protect their mandates and resources.

In this approach, based on the pre-arrival information about the goods, the clearance or transit procedures are initiated before the goods actually arrive. The key aspects of collaborative border management are grouped under policy, processes, people, information and communication technology and infrastructure. Though many of the collaborative management practices are already in vogue through discrete reform initiatives, yet this approach bring these innovations at one place in a holistic manner.

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[4] Aniszewski S, "Coordinated Border Management – a concept paper", *WCO research paper*, No. 2, June 2009, p. 6

[5] Doyle, Tom 2011, "The future of border management", *Border Management Modernization*, World Bank, Washington D.C

2.1.4. Comprehensive border management[6]

OSCE has developed a border security and management concept that has three dimensions inherent in OSCE's work, politico-military, economic and environmental, and human dimensions. The concept emphasizes on whole-of-government approach to border management and is appropriately called comprehensive border management. The core objectives of the concept are:

- Reduction of threat of terrorism by focusing on high risk persons and prevention of smuggling of weapon and funds connected with such criminal activities.
- Prevention and repression of transnational organized crime, human and drug trafficking, illegal migration and corruption.
- Promotion of free and secure movement of persons, goods and services and investments across borders in conformity with international law.
- Creation of beneficial environment for social and economic development of border areas.

OSCE help its member states in implementing border security and management concept by providing technical assistance in areas requested by member states. It also acts as a facilitator for political or technical dialogue to foster border agency cooperation among its members.

2.2. Legal instruments for cooperation among border agencies

2.2.1. International instruments

1. Harmonization Convention: As far as back in 1982, an International Convention on Harmonization of Frontier Control of Goods (Harmonization Convention) was developed under the auspices of United Nations Economic Commission for Europe (UNECE). Article 4 of the convention on "Coordination of controls" urges contracting parties, to the extent possible, to organize Customs and other controls in a harmonized manner. Article 5 further enjoins the contracting parties to ensure availability of sufficient personnel, equipment and facilities at such crossings. The emphasis of both articles is on behind the border inter-agency coordination and provision of resources for services.

Article 6 of the convention on "international cooperation" calls upon the contracting parties to cooperate with each other and enter into multilateral and bilateral agreements to achieve the objective of the conventions. Further, Article 7 of the convention provides for cooperation between adjacent countries and enjoins upon them to arrange for joint controls for goods and documents through provision of shared facilities. It also urges adjacent countries to have congruity in timings of operation of the frontier posts, the control services operating and the procedures followed therein. As can be seen the focus of article 6 and 7 is on coordination and cooperation across the border.

2. Revised Kyoto Convention, 1973: The International Convention on the Simplification and Harmonization of Customs Procedures commonly referred to as the Revised Kyoto Convention, 1973 also provides for joint controls in its General Annex. The transitional standard 3.4 calls upon the contracting parties to operate joint Customs controls at the border crossings and standard 3.5 calls upon parties to plan for juxtaposed Customs control at the new border crossings.

2.2.2. Subregional agreements and bilateral agreements

There are numerous subregional and bilateral agreements that provide basis for coordination among agencies. Some of them are:[7]

1. ASEAN Framework Agreement of Facilitation of Goods in Transit: The objective of the ASEAN framework agreement is to facilitate transit trade. Article 7 of the ASEAN agreement urges contracting parties to set up frontier posts adjacent to one another to avoid repeated loading and unloading of goods and explore the possibility of joint examination of goods. It also enjoins the

[6] OSCE and UN ECE 2012, *Handbook of Best Practices at Border Crossings – A Trade and Transport Facilitation Perspective*

[7] Adapted from Jain, S.R, "Coordinated Border Management: the experience of the Asia and the Pacific region", *World Customs Journal*, Volume 6, Number 1

parties to coordinate working hours of the adjacent border posts. The Article calls upon the contracting parities to be guided in their efforts to harmonize frontier facilities, wherever possible by the International Convention on the Harmonization of Frontier Control of Goods, 1982.

2. GMS Cross Border Transport Agreement: Article 4 of the GMS CBTA on Facilitation of Border Crossing Formalities calls upon the contracting parties to progressively adopt measures to simplify and expedite border formalities by having a single window inspection to carry out joint and simultaneous inspection of goods and people by respective competent authorities of agencies such as customs, immigration, trade agriculture, health. It further provides for single stop inspection and urges upon the national authorities of adjacent countries to carry out joint and simultaneous inspections. In the case that control posts are not located adjacent to each other, the control officials of one country shall be allowed to perform these inspections in other countries. Further, the article provides for coordination of working hours of the frontier posts and advance exchange of information on goods and people to facilitate their clearance.

2.3. Practical and operational tools for cooperation among border agencies

Various practical approaches exist to provide framework for cooperation among the border agencies. They are in operation with varying degrees of success around the world.

2.3.1. Single Window

The Single Window platform provides an integrated IT system to facilitate exchange of information and operation of integrated procedures for supporting border agency cooperation and coordination.[8] Countries in South East Asia, in particular, have been proactive in this regard. In 2005 they signed an agreement to establish and implement the ASEAN single window that involves developing single windows in each of the member countries and integrating them at the subregional level. However, planning, designing and implementing single window is fraught with numerous challenges and the entire process has to be undertaken carefully involving relevant stakeholders. The need for business process reengineering and inter-agency coordination continues to be most challenging aspect in implementation of single window. Overall, the experience with Single Window in the region has been mixed, with some countries successful and others struggling in its implementation.

2.3.2. One stop border posts and joint controls[9]

One stop border post is a single stop at the border crossing jointly managed by neighboring countries where the activities pertaining to the clearance of goods are streamlined to avoid duplications. There are numerous variations in the design of one stop border posts. Some common features, however, are demarcation of control area where officials from both states can conduct required checks as per their respective national legislation; control zone located within the national territory of one state; joint inspection and search of cargo in the presence of officials of both states and inspection results are mutually acceptable. Such arrangements can be further supported with integrated risk management, combined or uniform manifest, common standards and mutual acceptance of Authorized Economic Operators (AEOs). For successful operation of such posts some of the important considerations[10] are legal and regulatory framework, institutional structures, infrastructure and equipment, use of information and communication technology and capacity

[8] United Nations Conference on Trade and Development 2008, *Technical Note*, No. 14, Border Agency Coordination/ Cooperation, p. 2

[9] Kieck, Erich 2009, "Coordinated Border Management: unlocking trade opportunities through one stop border post", *World Customs Journal*, Volume 4, Number 1

[10] Maximizing trade through joint border posts, Crown Agents, available at: http://www.crownagents.com/docs/default-source/publications/capstats/capstats-uk/crown-agents-trade-facilitation-one-stop-border-posts107819311FDFE15CBD9B13E3.pdf?sfvrsn=4

development of officials at the border crossing. Due to challenges in working out and implementing these requirements, there are only few successful cases of one stop border posts mostly in Africa.

2.3.3. National Trade and Transport Facilitation Committees

United Nations Economic Commission for Europe Working party on Facilitation of International Trade Procedures in 1974 adopted Recommendation No. 4 on establishing national trade facilitation committees that was starting point for establishment of many PRO committees to simplify, standardize and harmonize international trade procedures. Since than many types of national coordination mechanism and committees have been set up in countries to achieve cooperation among various stakeholders including border agencies. These committees provide a forum for all the stakeholders, that is, the government departments including border agencies and private sector to come together and discuss issues pertaining to facilitation of trade and transport. Many countries have formed such committees, but on the whole the experience has been moderately successful. Different mandates, lack of financial and operational sustainability, and advisory nature of the recommendations have proved to be hindrance for success of this mode of cooperation among border agencies.

3. ESCAP- transport facilitation models

3.1. Background for development of models

As is apparent from the foregoing, despite numerous initiatives and measures taken by multilateral agencies and countries over last few decades, facilitation of international trade and transport continue to pose challenge. The answer is not far to seek. Border agencies are required to maintain a fine balance between institution of regulatory controls and facilitation of trade and transport – and do so while dealing with ever increasing flow of goods and people.

While globalisation has brought enormous wealth to countries, it has also brought numerous challenges that border agencies have to confront with. Some of them are national security, smuggling of goods, money laundering, drug and human trafficking, trade in counterfeit goods, trade in environmentally sensitive goods and in endangered species, pandemics. Coupled this with the resource crunch the government's face, demands from sophisticated traders who have made significant investments in logistics infrastructure, proliferation of production networks, numerous regional, subregional, bilateral trade and transport facilitation agreements means that border agencies continue to face daunting challenges to meet the conflicting demands of the stakeholders.

All these challenges have primarily done two things. Firstly, the inspections and controls at border crossings have become rigorous adversely affecting the efficiency of clearance processes and impacting flow of goods and vehicles across borders. Secondly, it has made control authorities hesitant to open more border crossings due to multiple challenges. So, while the demand for efficient and more land border crossings is increasing due to enhanced cross-border trade and transport and improved infrastructure, the supply is being constrained due to inefficiencies at the existing border crossings and lack of opening of the newer ones. This has created imbalance between demand and supply of border crossings as shown in Figure 1 below.

To address the imbalance, there is a need, to address the supply side constraints as demand for border crossings is bound to increase with projected higher growth in the region. The ESCAP transport facilitation models will help deal with the supply side constraints by addressing the same two concerns that reduced the supply and thereby restore the balance as depicted in Figure 2. The application of the systems based on the models will increase the efficiency of the border crossings and will give confidence to the control authorities to open more border crossings for international trade and transport. These models will facilitate cross-border and transit transport by addressing operational issues.

The four models developed by ESCAP as a complete package can help address non-physical barriers and operational issues in road transport through identification and monitoring of bottlenecks and flexible and practical arrangements for transport along the route and at border crossings. These models together provide a comprehensive package of solutions for cross-border and transit transport among the countries. The models are discussed briefly in the foregoing paragraphs.

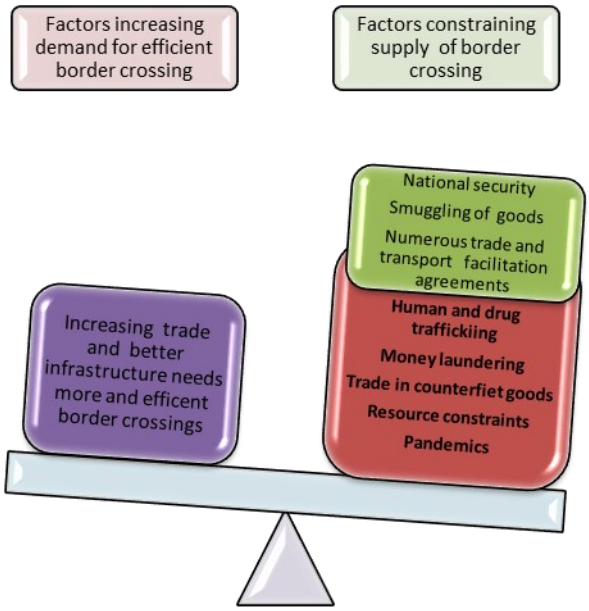

Figure 1. Imbalance between demand and supply of border crossings

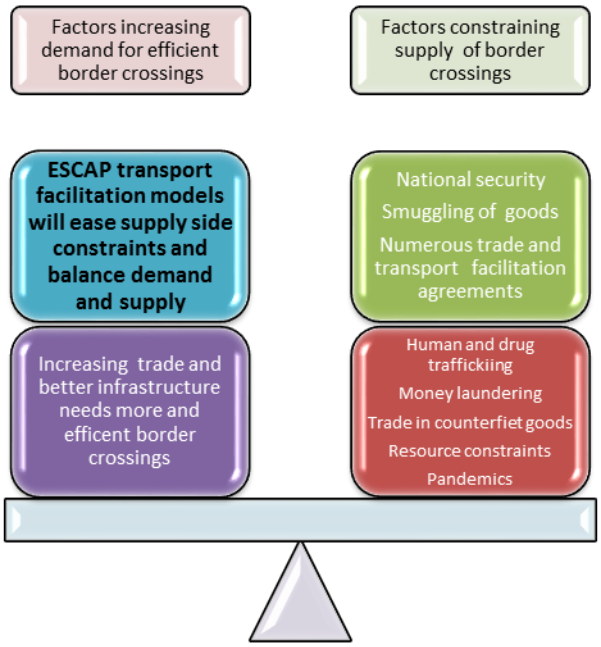

Figure 2. ESCAP transport facilitation models will restore demand and supply balance

3.2. Secure Cross-Border Transport Model[11]

Secure Cross-Border Transport Model (SCBTM) provides a conceptual and standard basis for design of a cross-border vehicle monitoring system using new technologies, including ICT, satellite positioning and electronic seals. The model prescribes standardized components, their interaction and institutional requirements for its application in the cross-border transport.

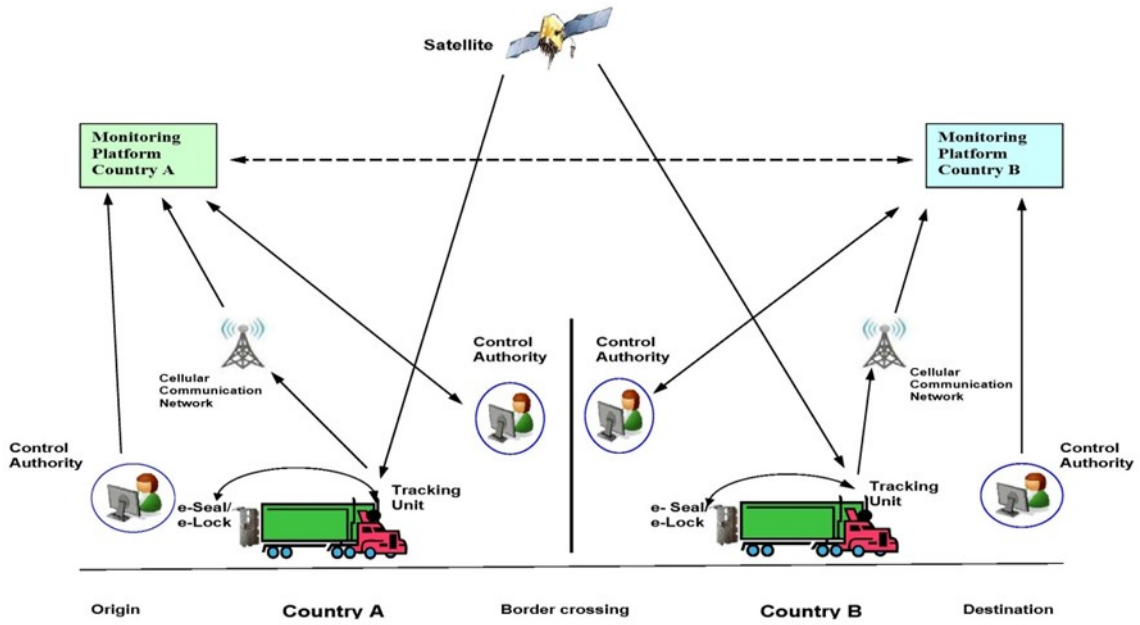

Figure 3. Secure Cross-Border Transport Model

This Model demonstrates that an integrated use of information and communication technologies can secure and facilitate increasing and expanding trade and transport, while taking care of increasing and pressing concerns of the control authorities. A vehicle tracking system based on the model can give control authorities the confidence they need to open up more land routes for international trade and transport. It will also allow transport operators to manage their operations efficiently.

The implementation of the vehicle tracking system is preceded by the agencies coming together to discuss their requirements for regulatory compliance and agree on specific design of the system. Thereafter, the nominated lead agency (normally customs) is mandated to operate it by issue of necessary instructions on various aspects of implementation including on sharing of the information and user access rights. Depending on the agreed design, agencies such as immigration, police, transport, quarantine can be given access to the real time tracking of vehicles. Each agency can use the required information from the system to meet its regulatory requirements.

As an illustration, consider the case of export of goods from a typical dry port in Country A to Country B; all the information pertaining to the goods, vehicle, driver and crew is entered into the system and an electronic seal (e-Seal) number is associated with it. The goods are loaded on the vehicle, after joint examination as per the extant regulations by officials from relevant departments the e-seal is affixed on container. The e-seal is activated and the vehicle along with the container can now be tracked online. If there is an attempt to tamper the seal en-route or diversion, the designated official

[11] Based on Secure Cross Border Transport, publication available online at: http://www.unescap.org/resources/secure-cross-border-transport-model

(s) will get an alert and appropriate action can be initiated. At the border crossing the designated official(s) cross check the seal number with the information already available in the system and after outer examination of the container allows the vehicle to Country B. The implementation of the system based on the model, therefore, promotes inter-agency cooperation with respect to sharing of information and conduct of inspections.

The system based on the model can also promote inter-country cooperation among the border agencies. An agreement between the countries for cross-border movement of vehicles along with arrangement for sharing of information and use of same hardware and software for vehicle tracking system can allow seamless movement vehicles and goods. Continuing with our example of export, once the vehicle leaves country A it can enter the border crossing of country B where the border officials already have information in their database about the vehicle and crew. Based on the risk management system, they can take decision on type of checks, if any, needed for the vehicle/goods/ crew and appropriate action can be initiated without any delay. The vehicle can be tracked till the destination in Country B by all the designated agencies having access to the tracking software.

As can be seen a vehicle tracking system based on the secure cross border model provides a strong foundation for cooperation among the border agencies on practical and operational aspects at both national and international levels. A vehicle tracking system based on the model is currently under pilot implementation between India and Bhutan and initial experience suggest enhanced cooperation between and among the border agencies of the two countries.

3.3. Efficient Cross-Border Transport Models[12]

A vehicle tracking system based on secure cross border model works best when two or more countries are willing to cooperate extensively on various aspects of cross border transport including allowing each other's vehicles into their territories. However, in practice, that may not be possible or feasible due to numerous reasons. In fact years of experience of ESCAP in field of transport facilitation indicates that bilateral or subregional agreements are, first of all, not easy to negotiate, and even when negotiated, further process of ratification is elaborate. Finally implementation of these agreements poses a huge challenge, as most of the agreements are formulated with top-down approach; some of them never get implemented.

To provide a practical way out of these challenges, ESCAP has developed the Efficient Cross-Border Transport Model (ECBTM) that provides practical solutions to the difficulties in cross-border operations of land transport. The model provides a methodology to evaluate available alternatives to address non-physical barriers and propose optimum solutions. It needs minimal inter-governmental arrangements and takes advantage of recent developments in trucking industry and technologies such as the prime mover-trailer system and commercial cooperation to overcome institutional barriers. Its implementation can also reduce concerns on safety and security with entry of foreign vehicles in the region. It addresses the needs for difficult cross-border arrangements, such as visa for driver, driving license, vehicle insurance, temporary importation of vehicles, standards of vehicles and transport permits.

The model is based on the premise that each border crossing is unique and there is no one-size-fits all solution for addressing non-physical barriers at the border crossings. Each border crossing is confronted with range of barriers some of which are institutional and others are operational which have to be identified. The model essentially provides four alternative ways to address them:

- Trailer Swap- At the border crossing, trailer is detached from the prime mover and after required inspections is taken across the border and is attached to another prime-mover across the border for further onward journey.

[12] Based on Efficient Cross-Border Transport, publication available online at http://www.unescap.org/resources/efficient-cross-border-transport-models

- Container Swap- container along with its cargo is taken across the border after necessary inspections and moved to another trailer across the border.
- No transloading- the prime-mover along with the trailer and container moves through the border crossing.
- Transloading at the border crossing- the cargo is taken out and shifted to another truck/container in the designated area near the border crossing normally under the supervision of the border crossing officials.

Each alternative can address range of non-physical barriers through available solutions such as bilateral or multilateral agreements, double registration, and accession to international conventions. The alternative preferred at a particular border crossing will depend on the evaluation of available solutions, to address the non-physical barrier relevant to the alternative, on the parameters of cost and difficulty. Efficiency and reliability are also considered while evaluating the alternatives.

Through systematic assessment, alternative that can work best at the border crossing can be identified. Assumptions made under the model indicate that the option of no transloading though efficient and reliable is difficult to implement in practice due to need for bilateral/multilateral agreement. The option of transloading at border crossing though generally inefficient and unreliable is still widely prevalent as no agreement is involved and therefore easy to implement.

Between the two extremes of efficiency, the options of trailer swap and container swap are now gaining ground as they provide practical ways to overcome the challenges under the first two options. The swaps provide a framework for another dimension of cooperative border management, that is, collaboration between private sector within and across the borders. The model encourages B2G and B2B cooperation within and among the countries. In any variant of cooperative border management, coordination among the government agencies is imperative, but equally important is the involvement of private sector as they are the ones, most affected by the border crossing procedures. Through systematic assessment of the alternatives and evaluation of operational and institutional solutions, the implementation of the model will promote better understanding between border agencies and private sector of each other's often conflicting requirements.

3.4. Model on Integrated Control at Border Crossing

One of the modern customs management practice is physical inspections at origin or destination and with opening of more dry ports in inland locations inspection of goods will take place at these locations and border crossings will become facilitation points. Nonetheless, many clearances of goods and inspections of various kinds will still be needed at the border crossing. As a matter of fact, efficient border crossing is must to reduce inordinate delays in the whole transportation process. In this regard, the Model on Integrated Control at Border Crossing (MICBC) provides more efficient information flow and sharing among various agencies at border crossings by application of modern technologies (including ICT) and streamlined process of documentation and procedures. It can help minimize interventions in the process of crossing borders by various border agencies while instituting required controls.

The model provides for a strong underpinning for cooperation among different border agencies and extended across the border it promotes coordination among the countries. In the era where trade and transport are increasing, challenges for control agencies are multiplying and government finances are squeezing, it is imperative that border agencies optimize the use of costly non-intrusive inspections and share the results of inspection and information among all the agencies that need them. The model promotes optimal use of modern equipment by different agencies by sharing results of inspections. It also helps streamline and simplify formalities and procedures for crossing border with re-aligned integrated procedure for the border crossing rather than different procedures for different agencies at the same border crossing.

Such a system could be used in conjunction with various automated equipment and can be integrated into 'single window' initiatives. Importantly, as volumes of trade and traffic grow, the system can also be scaled up without large additional investments. Figure 4 shows how information from automated equipment, advanced information from carriers, and data provided by government agencies can be connected to the central border crossing database of a country, and how this information could then be fed to the various border agencies.

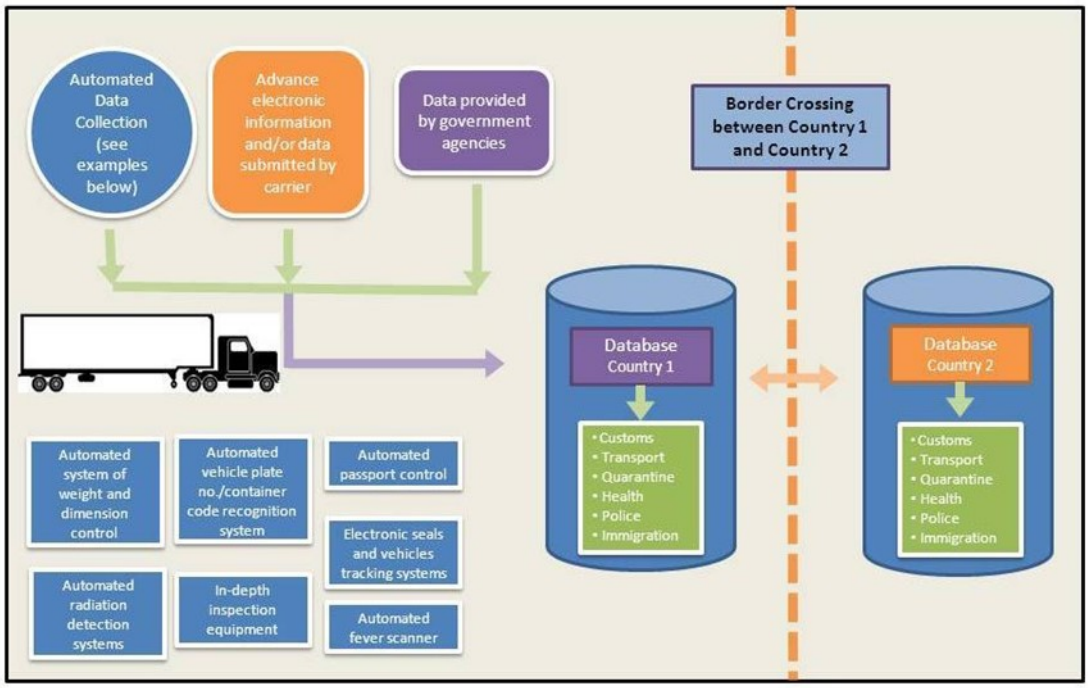

Figure 4. Model on integrated controls at border crossing

3.5. Time-Cost-Distance (TCD) Model

The Time-Cost-Distance Model is graphical representation (Figure 5) of data collected with respect to the cost and time associated with the transport process including at the border crossing. The vertical axis of the model represents the time and cost incurred while the horizontal axis represents the distance travelled from origin to destination. The methodology enables easy comparison and evaluation of competing modes of transport operating on the same route and comparison of alternate transport routes.

The methodology is based on the premise that the unit costs of transport may vary between modes, with the steepness of the cost/time curves reflecting the actual cost, price or time. At border crossings, ports and inland terminals, delays occur and freight/document-handling charges and other fees are usually levied without any material progress or movement of the goods being made along the transport route. This is represented by a vertical step in the cost curve. The height of the step is proportional to the level of the charge or time delay.

The purpose of the methodology is to identify inefficiencies and isolate bottlenecks along a particular transport route and monitor improvement of transport process with facilitation measures. The methodology can be further refined to find out in detail the contributory costs and time associated

with the clearance at the border crossings. This may be particularly useful to border agencies in focusing on critical issues that cause inordinate delays at the border crossings.

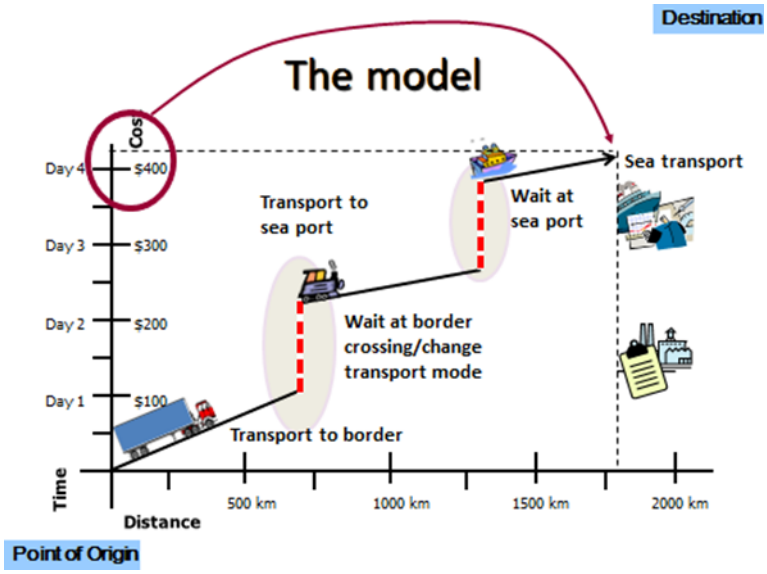

Figure 5. Time-cost-distance model

As can be seen, the TCD model provides a snap shot of time taken and cost involved in transportation of goods along the identified route. Backed with the quantitative data provided by the TCD model, the border agencies and private sector can come together to discuss the results, understand reasons for border delays and ways to reduce them, for example, by clubbing inspections, by sharing data among agencies, by pre-arrival intimation among others. The application of TCD model is not limited to ascertain delays due to intervention by any agency; rather its focus is on the unwarranted delays along the entire identified route.

3.6. Result based framework for cooperative border management

As can be seen in the foregoing paragraphs, the implementation of systems, based on each of the model provides necessary conditions for cooperation among border agencies. Together these models provide a result based framework for cooperative border management. The key elements of result based management or framework[13] are:

- Analyzing current situation or challenges
- Identifying measureable changes (results) to be achieved based on the problem analysis
- Designing strategies and activities that will lead to these changes
- Implementing and monitoring progress regularly and changing or adjusting activities towards results
- Evaluation

For analyzing current situation and challenges the TCD model is most appropriate, as it provides cost and time involved to complete border crossing procedures and along the route. Bringing all the government agencies and other stakeholder together along with quantitative results from TCD model will throw light on inefficiencies in the clearance processes such as duplicate or unnecessary inspections, repetitive documentation, and inefficient transshipment operations. Second step in the result based framework for cooperative border management is to identity measurable changes based

[13] Result Based Management: Logical Framework Approach, United Nations Statistical Institute for Asia and the Pacific (SIAP), 2007, based on power point available at: www.nesdb.go.th/research/chiba/suren/07%20RBM%20.ppt

on the analysis of the TCD results and other plausible considerations such as concerns of the regulatory agencies. Involving all stakeholders including representation from private sector, expected and measurable results can be agreed upon; this can include, for example, reduction in clearance time, reduction in documentation requirement.

Next step is the design of appropriate strategies and activities for effecting changes and realizing results. After complete and joint analysis of challenges along the identified route or at the border crossing by concerned border agencies, the system(s) based on appropriate models either alone or in combination can be used to address the inefficiencies and achieve desired results. For example, if security issues are paramount and huge delays are attributed to them, than use of SCBTM is suggested. Similarly, diversion of goods in transit and smuggling challenges can be addressed by application of a vehicle tracking system based on SCBTM. The border agencies on both side of the border along with other representatives from private sector can come together to discuss the modalities of design and implementation of such a system keeping in view agreed results.

The non-physical barriers such as those related to vehicles can be addressed using ECBTM with the cooperation of transport operators on either side of the border. For example, after joint assessment of alternatives under the ECBTM and in view of the agreed results, it may be decided to use trailer swap to reduce the delays due to inefficient transshipment procedures or lengthy clearance procedures. In case, no through movement of vehicles is allowed between the neighboring countries and still issues such as security diversion of goods are to be addressed, ECBTM can be used in conjunction with SCBTM and the tracking of vehicles can be done country by country.

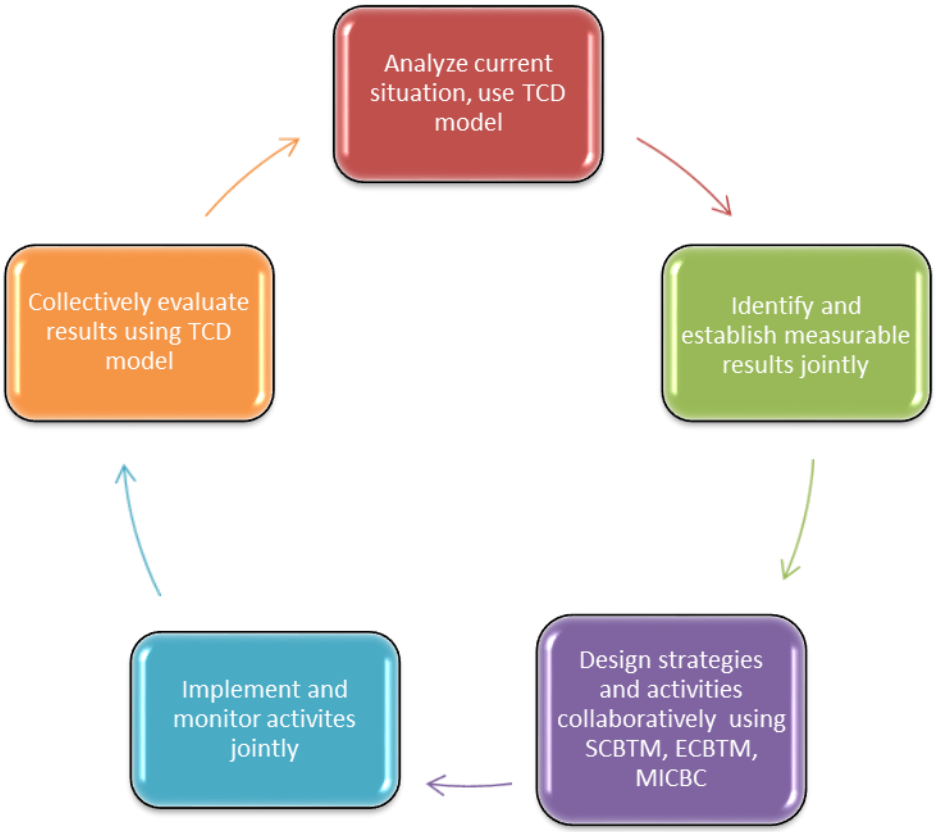

Figure 6. Result Based Framework for Cooperative Border Management using ESCAP Transport Facilitation Models

Where border crossings have to deal with large volume of good as well as the sensitivity of border crossing is high, the control agencies need a heightened degree of coordination to ensure that high-risk consignments and people are targeted for intervention. In such cases, a system based on MICBC can be used to clear the goods expeditiously as information from various sources is centrally available to all relevant agencies.

Figure 6 presents a result-based framework for cooperative border management based on the models as an iterative process. Once joint decision on the use of systems based on one or combination of models is agreed, next step is to implement the activities by respective agencies jointly. After specified period, TCD model can again be used to evaluate the extent to which results have been achieved or whether further changes are required which can than feed into next cycle.

Effective and efficient border management requires collection, analysis and timely dissemination of relevant information regarding cargo and people to help border officials take decision to allow low risk cargo and identify and interdict high risk cargo. Since the border management activities including information are spread across multiple agencies, there is a need to align them around common results so that information available with each of the agencies does not remain in silos but is integrated and converted into intelligence to help border officials to make accurate decisions with regard to admissibility of cargo and people without adversely affecting their flow. WCO has dedicated year 2014 for enhancing communication by customs with all stakeholder under the slogan "Communication–sharing information for better cooperation". The result based framework for cooperative border management as discussed above provides means to convert the slogan into reality.

4. WTO agreement on Trade Facilitation

The implementation of WTO trade facilitation agreement concurred at Bali with focus among others on border and customs management will enhance the competitiveness of the firms, leading to enhanced export performance. The will create more trade and jobs leading to higher economic growth, ultimately reducing the poverty. It is estimated that implementation of WTO agreement on trade facilitation will increase the two way trade of developing countries by USD one trillion and expected GDP increase of USD 0,5 trillion (Hufbauer and Schott, 2013).

The WTO agreement on trade facilitation has two sections, Section I has 12 articles focusing on trade facilitation issues and Section II is on special and differential treatment for developing and least developed countries. Under Section I, the first group of articles, Articles 1-5 address transparency issues and expand on article X of General Agreement on Trade and Tariffs (GATT). Articles 6-12 are concerned with fees, charges and formalities related with imports and exports and transit elaborate on articles V and VIII of GATT.

Article 7 relates to release and clearance of goods and contains provisions related to pre-arrival intimation, electronic payment of duties, separation of release from payment of duties, risk management, post clearance audit, authorized operators, average release time, special provisions for perishable goods and expedited shipments. The article 8 on border agency coordination contains such provisions as alignment of working days and hours, alignment of procedures and formalities, development and sharing of common facilities, joint controls, and establishment of one stop border post control.

The agreement builds on existing international instruments such as RKC and harmonization convention while laying down few more provisions for expeditious clearance of goods. The agreement though essential, is not sufficient in itself, for expeditious clearance of goods. Arrangements are needed to operationalize the policy prescriptions in the agreement. For example the provisions of article 8 of the agreement are almost similar to the one contained in the harmonization convention, yet they have not been implemented till date. Only a few member states are party to the convention and

even lesser have implemented the provisions contained therein. Article 13 of the agreement on institutional arrangements provide for Committee on Trade Facilitation to oversee implementation of the agreement. This calls for setting up of national trade facilitation committees, which as we have seen earlier remain prescriptive. At the operational level, workable arrangements are required to achieve the objectives of the agreements. The ESCAP transport facilitation models that provide a result based framework for cooperation among the border agencies hold a high potential for operational success of many provisions of WTO Trade Facilitation Agreement.

Summary and concluding remarks

Participation of country in international trade is potent way for economic growth, creation of jobs and removal of poverty. However, international trade and transport have become increasingly complex with involvement of multiple stakeholders often with conflicting requirements. The challenge before countries is therefore to reconcile these contradictions in a manner that while control measures are instituted, trade and transport are facilitated. Globalization has and continues to unleash forces that are challenging the border agencies as never before. The risk posed by entry of goods and people need to be timely established. However, the capacity to identify, assess and prevent entry of goods and people with high risk by the border agencies is constrained by limited resources, non-availability of timely information, lack of sharing and processing of information for meaningful intervention and above all the need for expediting clearances. Many of the border agencies and their processes are not geared to meet and balance control and facilitation requirements. Strategic and operational cooperation among border agencies is often lacking due to appropriate mechanism for it.

As seen in this paper, border delays are major impediment to smooth transport and often main source of high transport costs. These delays can be substantially reduced by cooperation among border agencies and other stakeholders. Despite existence of various approaches to coordination among border agencies within and across the borders, cooperation continues to pose challenges especially at operational level primarily due to lack of appropriate framework that binds border agencies. The results based framework for cooperative border management based on ESCAP transport facilitation models discussed in the paper provides a concrete foundation for border agencies to work together. Focus on measurable results coupled with practical and operational arrangements at border crossing and transport en-route based on models provide sound basis for cooperation among border agencies. The WTO agreement of trade facilitation has provided a renewed thrust on border agency cooperation as means to reduce inordinate border crossing delays and thereby reduce transaction costs, the ESCAP transport facilitation models provides way to accomplish it

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