

Akaki Tsereteli State University

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**Studying the Possibilities of Enhancing the Transit Potential on the Basis
of Implementing the Customs Logistics Principles**

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**The Author's Abstract
of the Doctoral Thesis Nominated for Ph Doctor Degree
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General description of work

Topicality of research. In today's globalized world, a high growing level of integration of markets in Asia, Europe and North America is due to the growing trends of commercial exchanges between the countries of the listed regions, for example, trade between Asia and Europe is currently €1.4 trillion.

As transnational links and international trade relations are progressing, the importance of freight transit planning at the global level is increasing. Therefore, planning and development of international transport-transit corridors is an inevitable prerequisite for ensuring the international carriage.

Planning and implementation of the transport-transit corridors is a complex problem, which is committed to develop one of the country's economic and social issues through trading activity, reduce transport costs, as well as to link the closed countries to the global market, and this allows less developed countries for entering into new stage in international relations.

In the context of market relations and modern global processes, the strengthening of trade relations among states in different regions is becoming increasingly important. Under these circumstances, the importance of the international trans Caucasus transport corridors passing through Georgia and other countries of the South Caucasus is particularly heightened.

By giving the priority to transit as a key factor in the potential development of the national economy, Georgia can become the transport and logistics hub in the trade between the European Union and the Asian and Pacific through the China's New Silk Road project. However, we have to realize that this goal could not be achieved without the joint efforts of the States of the region.

At the current stage of the development of international logistics networks, raising the transit attractiveness of state should become a priority in the formation of economic policy. Another important area for investment in the economic sector is the development of transport and logistics infrastructure and making maximum use maximum use of the country's transit potential.

There are many factors that can increase the transit potential, among which it may be possible to distinguish:

- Different tariff policies between countries of the Caucasus;
- Inadequate and inefficient infrastructure;
- Low level of logistics development;
- Different customs legislations between the South Caucasus countries;
- Lack of effective information technology.

Currently, in the context of international economic integration, measures are being taken to eliminate barriers in the border regions, innovative technologies are being introduced in the field of customs administration, proposals for reorganization and modernization of the customs-logistics and transport infrastructure are being developed. However, experience shows that such actions have a short-term effect or do not contribute to reducing the time and financial costs of foreign economic actors involved in the movement of goods across the customs borders of the bordering states.

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The degree of elaboration of research problem. A number of scientific papers by local and foreign researchers consider the theoretical underpinnings of development of international transport corridors, their forms, objectives, advantages and negative aspects, as well as the forms of international integration, the developmental characteristics of the country's transit potential, negative factors and ways to increase this potential. However, the extent to which the customs clearance and control procedures of international trade flows can affect the transit potential is less clear. Scientific publications and official editions, addressing the dissertation topic, present methodological material on the development of transit potential and customs-logistics system of the South Caucasus Transport Corridor. However, it can be said that this problem is not sufficiently elaborated and needs further research..

Subject matter of research. Customs regulation of international transit transport of goods is one of the pressing issues in today's globalized world. Transit flows crossed the borders of the States and are subject to the procedures regulated by the customs legislation of particular country. The more border crossings, the more the customs formalities face the transit flows. Therefore, the subject of our dissertation research is the current practice of customs clearance and control of transit transport of goods.

Goal and objectives of research. The goal of the dissertation is to develop methodological and practical recommendations for simplifying the customs control and clearance procedures of international freight transit flows in border areas with a view to increasing the transit potential of the South Caucasian transport corridor, using modern information technology, as well as to establish the foundations for an automated control system for implementing the clearance and control procedures.

In order to achieve the set goal, the following objectives have been formulated and attained:

- Considering the goals, forms and developmental characteristics of the international transport corridors;
- The current state of the field of transport and logistics and factors affecting its development;
- Aspects of the formation of a customs system in line with the development of international trade;
- A comparative analysis of European customs administration practice in interational transit traffic and practices existing in the Caucasus region;
- Suggesting the cases concerning the use of the princiles of logistics management in the field of customs;
- Identifying the main prblems of the transit potential development;
- Considering the cases concerning the use of information technology in the field of customs;
- Developint the specifics of an electronic data exchange system between the customs authorities in the countries of the Caucasus region, with a view to simplifying customs clearance of cargo flows;
- Justifying the need to integrate the functional parts of customs and transport logistics in the border area;
- Developing the technological customs clearance scheme for goods subject to phytosanitary control;
- Providing recommendations to be implemented within the framework of customs cooperation between the countries of the region.

The theoretical and methodological bases of research are fundamental and applied scientific papers by Georgian and foreign scientists and specialists in the field of customs, supply chain

management, customs and transport logistics. Scientific and practical problems are addressed using the methods of statistical analysis, generalization methods, structural and analytical grouping methods, and expert estimates.

As an information base, there were used the customs official statistics, laws and regulations of Georgia, its neighboring countries and international organizations, economic and periodic press materials, analytical reviews and official documents published on the Internet, electronic publications, as well materials on the dissertation topic gathered by the author.

The novelty of research findings. There has been developed the technological scheme of customs control and clearance of international transit cargo flows, based on the modern information systems and western experience, there has been suggested the need for establishing the Electronic Data Interchange System Between the Customs Authorities (EDISCA). Its use will significantly reduce the time spent on customs formalities and will have a positive impact on total transport volume.

Theoretical recommendations for customs clearance of goods subject to phyto-sanitary control have been proposed.

There has been determined the appropriateness of using the basic principles of logistics in the customs field, with a view to improving efficiency of customs services. On this basis, the meaning of the term "customs logistics" and its relevance to the development of the transport logistics sector has been redefined.

Practical bearing. Theoretical findings, technological schemes and the developed electronic systems obtained in this research can be used jointly in the activities of the Customs Department of the Revenue Service, as well as in the activities of the customs services in the neighboring countries, with a view to ensuring customs processing of freight transit flows. Practical implementation of recommendations resulting from the research in customs practices in countries of the South Caucasus region will enhance efficiency, improve the customs services, and will facilitate the development goods transportation, which in turn will improve the competitiveness of the corridor, and will significantly enhance its transit potential.

On overview of work. Presentations on the results of dissertation paper were made at the following conference and forums:

1. International Scientific-Practical Conference "HIGH TECHNOLOGIES. BUSINESS.SOCIETY" 13 – 16.03. 2017. Borovets, Bulgaria.
2. International Scientific-Practical Conference "trans&MOTAUTO17". Varna, Bulgaria, 2017.
3. III Georgian-Polish International Scientific-Practical Conference "Transport Bridge Europe-Asia" . 24-26.10.2017 Kutaisi.
4. XXVI International Scientific-Practical "trans&MOTAUTO18". 27 – 30.06.2018. Burgas, Bulgaria.
5. Transport-related scientific-practical workshops at the Department of Transport and Civil Engineering of Akaki Tsereteli State University (Kutaisi 2017 – 2019)

Published materials. On dissertation materials, there have been published 9 scientific papers, including 4 papers in high-rated journals registered in the ERIH PLUS databsses, such as: „**Bulletin of Science and Practice**“ and „**Juvenis scientia**“, which have been recommended by the Dissertation Council of the Faculty of Technical Engineering of ATSU.

The volume and structure of dissertation. Dissertation is divided into four chapters, and includes 7 tables, 10 drawings, 2 diagrams list of 77 references. Dissertation comprises 148 printing pages.

Content of work

The first chapter is devoted to the analysis of literature sources that contribute to the formation of transit potential. There are also considered peculiarities of the establishment and development of international transport and transit corridors, their goals and forms, factors affecting them and the problems that hinder their development. There are also analyzed scientific papers devoted to the problems of development of transport-transit corridors in terms of increasing the transit potential, by the authors such as T. Kochadze, B. Gitolendia, L. Botsvadze, Ia Kharazi, R. Mamuladze, D. Gochava, M. Lomtadze, E. Jgerenaia, N. Abelashvili, V. Karumidze, D. Bowersox, V. Lukinskiy, T. Alesinskaya, J. Sokol, L. Wolf, A. Walker, G. Gandolfo, B. Seiom, L. Afanasyev, A. Emirova, V. Nazarenko, J. Arnold, K. Kunaka, P. Heily et al. It has been established that the development and proper functioning of transport corridors is an important precondition for increasing the transit potential. The competitiveness of transport corridors depends heavily on the status and development of transport logistics infrastructure.

This chapter also considers the transport corridor passing through Georgia and other countries of the South Caucasus, also known as the Transcaucasian Corridor. The geopolitical role and status of the South Caucasus are very important for Europe, especially because of the function of the transport corridor. The South Caucasus is an important link between the States of Central Asia rich in natural resources and Europe with growing demand for these resources.

Given that particular corridor is established with a view to linking the industrial centers and markets, as well as closed countries to the international market, they have the inlet and outlet junctions, or the so-called portals, through which feright flows go in and out of this corridor. Each corridor consists of transport and logistics infrastructure, and the States they often cross, the greater the number of States, the more barriers freight flows face when moving through this corridor.

These barriers mostly relate to various legiuslations and procedures established for transit flows with respect to their entry in any country. Such barriers include customs formalities and legal acts as defined by customs legislation.

As mentioned above, each State has its own customs policy and mechanisms to implement it. Freight flows across borders are subject to different customs control and clearance procedures, which are usually time-dependent, and costs associated with downtime are the most important elements for shipping.

It has therefore become a matter of necessity to rehabilitate customs infrastructure at the borders, as well as bring it into line with European standards, develop and implement transparent and effective customs formalities, strengthen customs cooperation between border countries and introduce the common principles of border management and use modern information technology to enable sharing of data, use the common customs procedures for transit cargo and unify customs legislation, in order to ensure safe, fast and smooth movement of passengers and cargo flows.

It is customs and related problems that are considered a research subject in the first chapter of this paper, since the implementation of ineffective customs formalities can become a major obstacle to the organization of international transit transport connections. Therefore, the development and introduction of modern methods and approaches for customs clearance of cargo flows and their introduction into practice

will significantly contribute to the approximation of customs practices to Western standards, transport facilitation, and ultimately, to enhancing the transit potential.

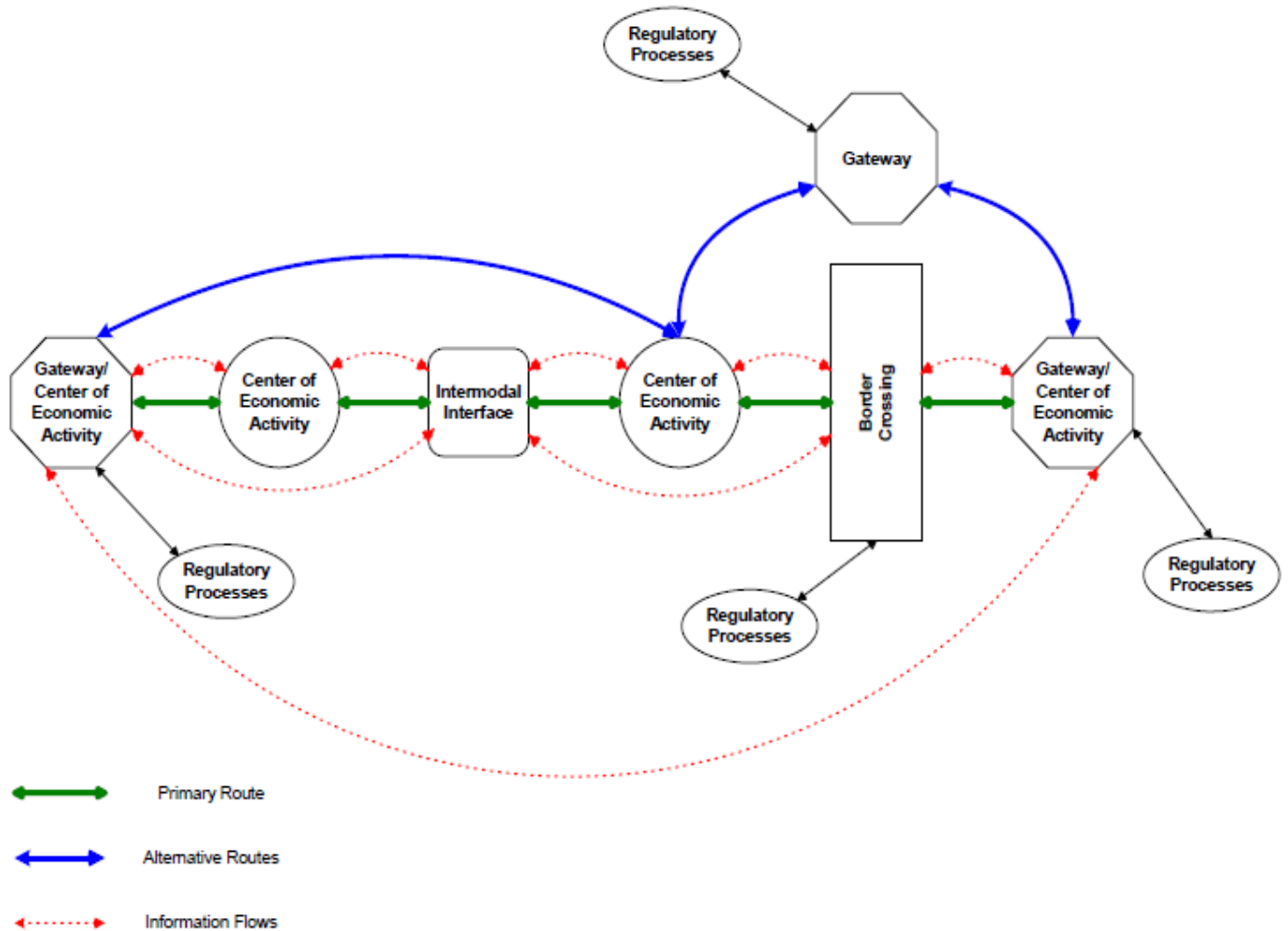


Fig. 1. A model of corridor (adapted by the author)

The second chapter is devoted to the historical aspects of the genesis and development of customs. This chapter provides information about the first customs legal relations both globally and also in Georgia. It also describes scientists' opinions on the state and functioning of customs under Russian Empire control. There are also reviewed features of the customs development since gaining independence until today.

Although the Georgian Customs Service's history could be traced back only to three decades, its reformation became a sustained process during this time. However, cardinal reforms have started since 2005, with the aim of establishing the Customs Service (Revenue Service) as a non-corrupt and well-functioning state body. The most radical institutional change was made in 2007, when the Customs and Tax services merged and formed the Revenue Service. Prior to that, the customs and tax services functioned sometimes independently, and sometimes within the structure of the Ministry of Finance or the Ministry of Tax Revenues.

Since 2010, the government of Georgia has undergone drastic reforms with a view to simplifying and improving the quality of customs procedures, which are still ongoing. As a result of the reform, the legislative framework has been refined, simplified and made more flexible.

Priorities of the Georgian Customs Service activities as defined by the Revenue Service Strategy and Action Plan were and are: performing fiscal and law enforcement functions, technological improvement of risk-based customs control and clearance, facilitation of international trade and the efficient transit of goods. Handling, ensuring economic security and defending the country's economic interests.

This chapter also provides information on the development of the transport and logistics systems of Georgia. The importance of logistics as a major driving force in the era of globalization is also described.

Given the current trends in the global market of logistics services and world experience, Georgia is in the process of setting up and consolidating this field. It is far behind Western countries in terms of quality and complexity of services provided by transport-logistics companies.

According to the results of a study undertaken by the World Bank in 2018, the level of effectiveness of the logistics system in Georgia is quite low: our country is behind the first 100 countries in the rating and is lagging behind not only developed countries, but also the former Soviet Union countries such as Ukraine, Kazakhstan, Latvia, Lithuania, Russia, Estonia, Armenia, Moldova, Belarus, and Uzbekistan; currently, Georgia ranks 119th in the world rating of the logistics systems and is next to states such as Togo and the Democratic Republic of Congo.

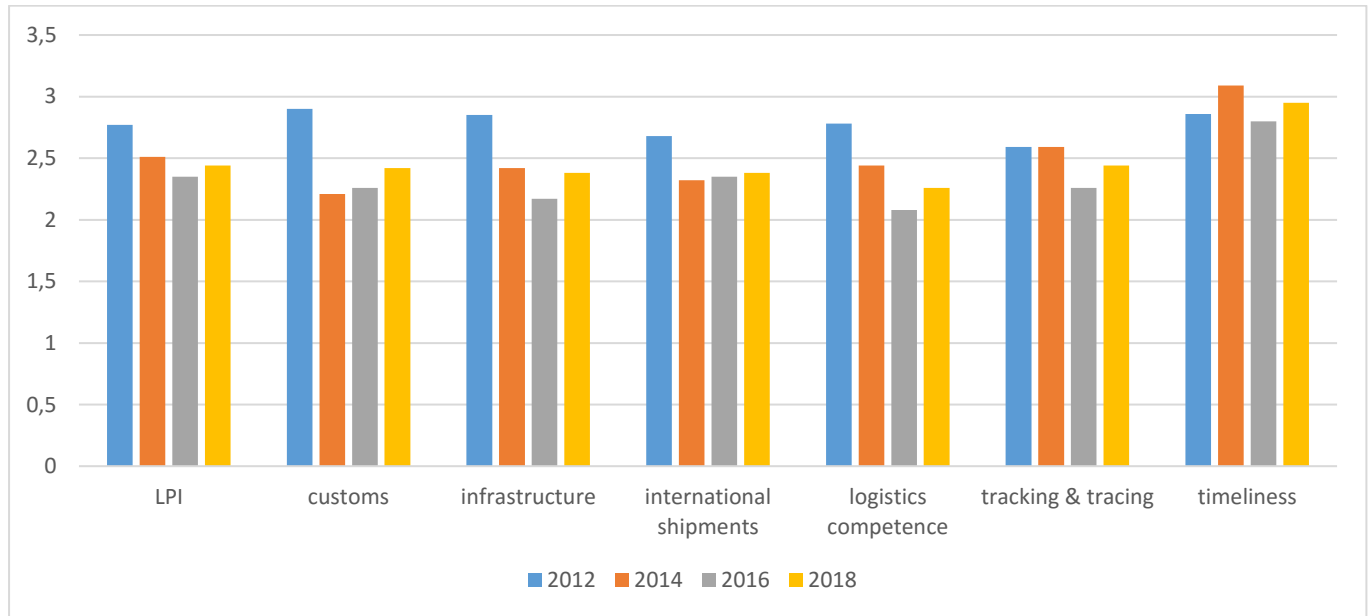


Fig. 2. The dynamics of logistics efficiency in Georgia in 2012-2018

The problematic segments of the logistics systems in Georgia are competence and quality of logistical services, the simplicity of international shipping, the quality of trade and transport infrastructure,

and the customs clearance procedures, and this paper is devoted to developing specific recommendations for improving its efficiency.

Significant improvements in the efficiency of logistics can be achieved by improving efficiency of the customs control procedures. This implies more effective customs operation, both in terms of customs control and customs clearance rate of goods and vehicles, and in terms of effective work of the sanitary and phytosanitary control agencies under its control. Frequent delays and the complex procedures in international goods transport prolong the delivery time and increase costs. If there is a low quality service, good physical connections are insufficient. This opinion is also shared by J.P. Arve: “We cannot only rely on infrastructure without solving border control issues. It is difficult to arrange everything. Projects are getting harder, the number of stakeholders is growing, there is no more quick and easy way to succeed.”

In the era of globalization, the role of customs services changed dramatically and its main purpose became to facilitate international trade, effectively manage transit flows through the introduction of modern electronic methods of customs control and clearance. In the modern global economy, delivery of goods to other countries is a complex and costly task. The efficient management of customs and international trade issues is crucial to maintaining competitive advantage. In order to be competitive in today’s dynamic trade environment, it is important for any company to optimize custom clearance.

The third chapter dwells on the international document on the unification of customs activities – the SAFE Framework of Standards to Secure and Facilitate Global Trade. This document was subjected to repeated thorough analysis by foreign scientists and Georgian specialists. This document is of paramount importance, since 183 countries have already expressed their willingness to adopt and/or have already adopted the SAFE Framework of Standards, including all of the key strategic trade and economic partners of Georgia and countries of the Caucasus region.

It is, in many respects, this is a unique tool as it allows for taking the next level of the principles of safe international trade. It is very important that the basis of this document is a unified systematic approach to methods of interaction and operation of the customs administrations and business organizations. Therefore, mitigation of risks in the international supply chain is one of the key elements in a global process of strengthening interaction between the customs administrations.

When extrapolating these theses into the Georgian reality, it is important to note that one of the major problems of the development of Georgian customs authorities is the inadequate use of international standards that affects the implementation of trade and logistics technologies. In addition, in the process of organizing international transit of goods to Asia and Europe, when considering the partners of the South Caucasus and other countries, it should be noted that the European Community’s customs administration included practically all above stated provisions in the strategy of developing its own customs administration system. Thus, we have reason to believe that the EU has the most comprehensive system of customs administration that responds to all major international development trends in this area.

As already mentioned in the paper, Asia-Europe is the main subject of study in transit area. Within this route, products manufactured in Asian countries are supplied to European countries. Accordingly, the EU has an advanced and well-developed information technology system for the customs administration of flow of goods. Therefore, in the research part, there were studied the European experience of customs clearance of transit cargo and they were compared with practices existing in Georgia.

The main international documents regulating the issues under consideration are the following conventions:

- Convention on Simplifying Formalities of Trade in Goods;
- Convention on the Common Transit Procedures.

The analysis allowed us to identify a number of principled differences between the European Conventions (Convention on the Common Transit Procedures, 20 May, 1987) and current Georgian practice.

For example, when implementing transit traffic in the EU, there is used in the single administrative document, according to which, goods and vehicles are moved throughout the territory, on the basis of one legally binding document, while when moving between the states of the Caucasus region, there are used a variety of documents (more precisely, during each border crossing, a new document is issued in accordance with legislation in particular country). This significantly hampers delivery of goods and increases downtime costs, which in turn leads to increases in logistics costs of companies.

The most important modern European customs concept is the Authorized Economic Operator (hereinafter referred to as AEO), which Georgia had undertaken to implement within the DCFTA. AEO allows companies to run their business more transparently and legally, in exchange for a range of customs exemptions.

Particular mention should be made of the EU's project "New Computerized Transit System (NCTS)". The New Computerized Transit System (NCTS) is committed to ensuring the effectiveness of foreign economic activity and market control. This system is based on computer systems and electronic data processing, electronic notification exchange, which makes it much more efficient and convenient as compared to paper document flow.

The main objectives of the New Computerized Transit System are as follows:

- To increase the effectiveness and efficiency of the transit procedures;
- To improve the fraud detection and early warning mechanisms;
- To accelerate operations performed during the transit procedures and ensure their enforcement.

The electronic notification exchange is carried out at three levels as follows:

- Between the customs authorities and economic operators (international level);
- Between the country's customs authorities (national level);
- Between the national customs administrations and the commission (overall level).

The advantage of the New Computerized Transit System is that a number of operations are performed automatically through the computer system.

In the third issue of this chapter, there are formulated the theoretical bases of applying the basic principles of logistics in the customs field, on the basis of which there is proposed the definition of a new area of logistics - the concept of "Customs Logistics" and its importance for Georgian reality. We have formulated our definition of custom logistics, according to which *customs logistics* - is a set of measures of international supply and documentation of goods and vehicles between countries, based on information technology, which will optimize the export-import and transit operations with a view to reducing logistics (transaction) costs. The main objective of customs logistics is to accelerate the process of supply of goods from one entity engaged in foreign economic activity to another one and minimize the associated costs.

The fourth chapter deals with the development of effective methods of customs control and clearance of transit cargo flows using the modern information-technology systems.

To this end, we have developed a model of the electronic system of document circulation among the customs administrations of the South Caucasus countries, the technological scheme of implementation of which is shown in Figure 2. It allows for improving the quality of interaction between the customs authorities of border countries. It also allows for sharing real-time information and controlling goods and vehicles on the basis of preliminary information using the risk management system. It is also possible to issue transit document in advance and store it locally on the Customs Department production server (ASYCUDA) prior to border crossing.

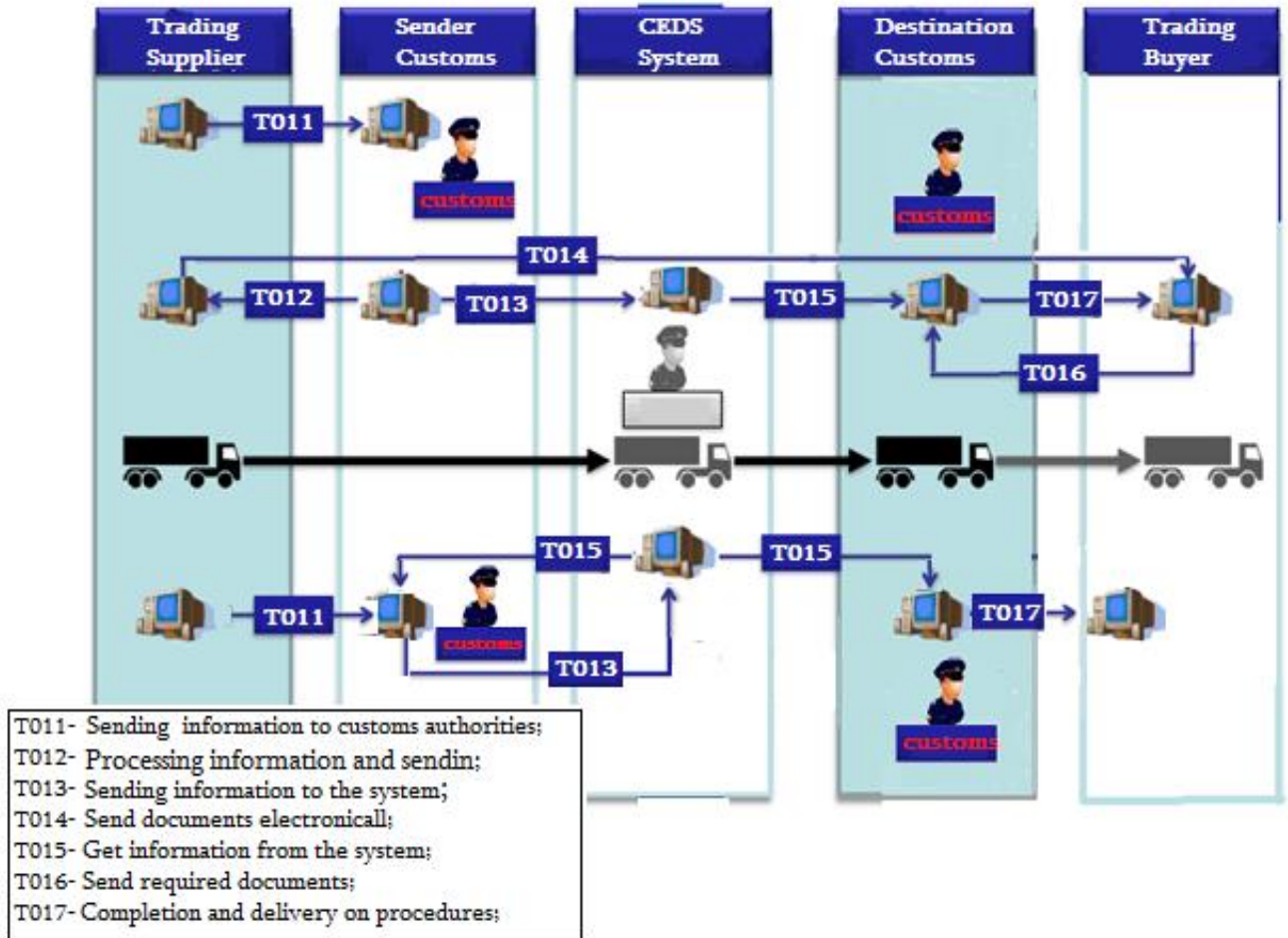


Fig. 3. A technological chart of customs clearance using the the EDISCA system.

When goods arrive at the border, the customs inspector will no longer have to issue a certificate. He/she will be able to invoke a certificate stored locally on the server and register it with minimal modification. Use of this method will significantly reduce the time required for documentation and will have a positive impact on transportation costs.

An important novelty is also the method that we developed for of customs clearance of goods subject to phyto-vet sanitary control. It is based on the simplified customs declaration on such goods, where, in contrast to the usual declaration, the minimum number of columns shall be filled.

An important step forward in this regard would be the licensing of partner countries' companies producing products subject to phyto-vet sanitary control. The purpose of licensing should be to ensure that the products of these companies are manufactured in full compliance with the phyto-vet sanitary regulations and international standards, which do not endanger human health. Such an approach eliminates the need for phyto-vet sanitary control, which is usually associated with additional time and financial costs.

The recommendations that we propose will greatly simplify the customs clearance procedures of international transit cargo flows and will contribute to enhancing the transit potential and competitiveness of the South Caucasus Transport Corridor and increasing its competitiveness. This, to large extent, should be done within the framework of deeper and more comprehensive customs cooperation between the States of the region.

General conclusions and recommendations

1. Based on the analysis of Georgian and foreign literature, we can say that planning and implementation of the transport and transit corridors is a complex issue, which is committed to develop economic and social issues of particular country through trading activity, reduce transportation costs and to link the closed countries to the global market, and this allows less developed countries for entering into new stage in international relations, creating new connections with foreign countries and enabling the so-called the policy of "the warming of relations".
2. There are numerous internal and external factors affecting the competitiveness of the trans-Caucasian corridor (alternative routes, shipping prices, transport and logistics infrastructure, tax and customs legislation) that have a significant impact on the development of transit potential. As one of the key issues in studying the transit potential, we have outlined the customs field and forms and methods of customs clearance of transit cargo flows. The introduction of modern and innovative customs services and the creation of custom logistics infrastructure, in our opinion, will contribute to the guaranteed protection of cargo, their faster transportation and will significantly lower transportation costs.
3. Modernization of the customs administration processes, cooperation between the States' customs authorities and the transfer of some power to business - this is one of the basic provisions of the SAFE Framework of Standards and an important trend in the development of international road cargo transport market. Thus, customs administration of international cargo transit between Georgia and other countries of the South Caucasus should be governed on this basis.
4. Enhancing the transit potential of the South Caucasus Transport Corridor and improving the competitiveness in the international road cargo transport market can be achieved through the following objectives:
 - ✓ Strengthening cooperation in the field of customs between the South Caucasus states;
 - ✓ Use of modern information technology for customs clearance of transit cargo flows;
 - ✓ Developing partnerships between the customs authorities and business institutions, mostly on the basis of the principles outlined in the SAFE Framework of Standards;

- ✓ Developing solutions to reduce potential risks within the organization of international transit cargo traffic;
 - ✓ Carrying out the customs logistics with a view to simplifying and facilitating international cargo traffic through the implementation of the principles of logistical management.
5. It is also important to note in this work that we proposed recommendations for improving the relationship between the customs authorities and foreign economic actors in the process of international transit transport of goods and exercising the customs control over them. It is based on the Electronic Data Interchange System Between the Customs Authorities (EDISCA) that we developed to facilitate customs clearance and control of goods and with a view to the effective cross-border movement.
 6. The creation of the EDISCA implies a high level of cooperation and interaction between the border states in the Caucasus region. Its practical application will foster the real-time transmission, reception and processing of information on goods and vehicles, reducing the time required for clearance and control and enhancing the coordinated work of customs services at the border.
 7. The EDISCA system can be used in all fields of electronic interaction:
 - Customs To Business (C2B) – interaction between the customs authorities and commercial entities;
 - Business To Business (B2B) – interaction between commercial entities;
 - Customs To Customs (C2C) – interaction between interaction between the customs authorities in the region;
 - Customs to Government (C2G) - interaction between the customs authorities and government entities.
 8. As a whole, the use of the EDISCA system ensures:
 - Reduced number of paper documents;
 - Significant reduction in time required for customs control and clearance;
 - Acceleration of the cross-border movement of transit cargo flows;
 - Minimizing the commercial fraud at the border;
 - Effective use of a risk analysis system.
 9. Introduction of the mechanism of licensing enterprises subject to phyto-vet sanitary control among the EDISCA system countries will contribute to simplifying the the phyto and vet-sanitary control procedures, and besides, the use of simplified clearance methods for this types of products, will significantly reduce the clearance time and will have a positive impact on transport efficiency.

Doctoral student Amiran Gudadze has authored and co-authored scientific publications (a total of 9 publications).

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