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The Legal Framework for the Safe Transportation of Dangerous Goods in CEMAC

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Abstract

Transportation of dangerous goods over the years has experienced a remarkable increase across the globe and in particular the CEMAC countries have witness an exponential increase in the quantity and volume of dangerous goods movement within the sub-region. This remarkable increase in the transportation of these has been attributed more, solely to its prominence and relevance in our daily lives. However, it must be underscored that, while these goods play a pivotal role in ensuring a smooth functioning of the society, the dangers and risks that it poses to human life, property and the environment cannot be treated with levity, at the same time preventing their used might be considered as an act of extinguishing the human race because of its relevance in our contemporary world. In perspective like other regional and sub-regional blocks in the world, members of the CEMAC sub-region have in a bid to safeguard human lives, property and the environment, ratify and adopted several laws intended to regulate the safe and effective transportation of these across the zone. In essence, this work essentially focuses on examining the legal instruments adopted by the block members to regulate the safe transportation of dangerous across the sub-region.

Keywords: legal framework, safe transportation, dangerous goods, CEMAC

1. Introduction

Dangerous goods are articles or substances that cause a hazard to people, living creatures or the environment in an instant, because of their corporal, chemical or acute toxify characteristics. Dangerous goods are substances or products that may pose a risk in terms health, property, safety, the public or the environment[1]. An object or substance is classified as a dangerous good if it poses a particular hazard during transport.

UN Recommendations on the transport of dangerous goods divide dangerous goods into 9 classes, reflecting the kind of risk involved. In some cases, these classes are further sub-divided into divisions to identify a particular risk within that class[2]. The goods represent the classification of dangerous goods according to their classes is based on their physical and chemical quality characteristics. Each class represents a specified principal type of risks generated by DG. There are nine major dangerous goods classes, some of them are decomposed into sub classes as

[1] Verter and Kara. (2001). 12.

[2] UN. (n.d.). Recommendations on the Transport of Dangerous Goods, "The 9 Classes of Dangerous Goods", http://www.dgiglobal.com/classes. Accessed 08/06/2024.

follows[1]: Class 1 Explosives, Class 2 Gases: compressed, liquefied or dissolved under pressure, Class 3 Flammable liquids, Class 4 Flammable solids, Class 5 Oxidizing substance, Class 6 Poisonous (toxic) substances, Class 7 – Radioactive materials, Class 8 – Corrosives, Class 9 Miscellaneous.

International movement of dangerous cargoes has marked the acceptance of international regulations related to transportation of dangerous goods at a national level sub-regional level. Like the CEMAC, other countries have developed national regulations or guidelines for the transport of dangerous goods. However, regulations and practices differ from country to country. It is important to point out that, a host of the CEMAC member state is landlocked in nature, reinforcing the need to guarantee e and safeguard the transport of dangerous goods across the different zones of the sub-region. However, as a result of their geographical disadvantage, landlocked nations face specific challenges in their attempts to integrate into the global trading system, mainly because dangerous goods coming from or going to a landlocked country are subject to greater risks to inhabitants of the areas and to the environment. Due to the diversification of chemical production and the tremendous increase in quantity, the threat posed to life and the environment increases accordingly. The local and international communities have become more and more aware of the necessity to set up and implement rules which regulate not only the transport of dangerous goods, but also other activities implied by and related to it.

The TDG involves many risks and it is considered as threat for the drivers, persons around mechanism of transportation, population and also for the environment[2]. Reasonably, this process should be regulated by specific regulatory framework. This regulatory framework should cover all the modes of transports. The issues of complying with regulatory framework are one of the main challenges for the service providers in the transportation process. Besides the procedures, which they should follow on packing, organizing and adapting the time for transportation of specific goods, they should also consider the regulation framework of the other states where they are linked for organizing the transportation process. There is an extensive set of legal information applicable for the process of TDG in CEMAC. This set is composed of international regulations ratified by members states as well as internal or external policy within the sub-region.

2. The Concept of Safety, Security in the Transportation of Dangerous Goods

The word "safety," comes from a Latin word "salvus" which means uninjured or in good health. The first records of the word were noticed from around 1250. Safety is a concept that includes all measures and practices taken to preserve the life, health, and bodily integrity of individuals. Safety is the condition of being protected from harm or other non-desirable outcomes. Safety can also refer to the control of recognized sources of danger (hazards) in order to achieve an acceptable level of risk[3]. Safety has always been a fundamental concern for humanity. Over time, the concept of safety has evolved significantly, reflecting the changing needs of society.

The awareness regarding the concepts of safety, security and risk have evolved in recent years from a narrow and specialist perspective to a more holistic view on, and approach towards the related issues. However, this understanding is not necessarily a common perspective and when one talks about safety, security, and still different perceptions exist. Sure, everyone understands what is being talked. About when speaking about safety, security[4]. The whole world comprehends what the words mean and in one's own perception, how they can be understood. However, when opening a discussion on what these concepts really are, and how one should study or deal with them, it is most likely to end up in ontological and semantic debates due to the different views, perceptions and definitions that exist.

According to Stone, security is about freedom

[1] Andrei Borshchev and Alexei Filippov. (2004). From system dynamics and discrete event to practical agent-based modeling: reasons, techniques, tools. *In Proceedings of the 22nd international conference of the system dynamics society*, *22*, Citeseer, 78, 79.

[2] Road freight transport of dangerous goods. http://ec.europa.eu/eurostat/statistics-explained/index.php/Road_freight_transport_by_type_of_goods#Road_freight_transp ort_of_dangerous_goods

[3] Mayer, J., Cornell, D. (2010). New perspectives on school safety and violence prevention. *Educational Researcher*, *39*, 5-6.

[4] Hollnagel, E. (2014). Safety-I and safety–II: the past and future of safety management. Ashgate Publishing, Ltd. ISO 31000:2018.

from threat and ability of states to maintain independent identity and their functional integrity against forces of change, which they see as hostile. Security is generally agreed to be about feeling of being safe from harm, fear, anxiety, oppression, danger, poverty, defence, protection and preservation of core values and threat to those values. Morgan provided a clear definitional distinction between safety and security. He contended that one of the primary differences between the two terms is their definition. Security refers to the protection of individuals, organizations, and properties against external threats that are likely to cause harm.

It is clear that security is generally focused on ensuring that external factors do not cause trouble or unwelcome situation to the organization, individuals, and the properties within the premises. On the other hand, safety is the feeling of being protected from the factors that causes harm[1]. They are regulated in order to prevent, as far as possible, accidents involving people, property or the environment. Despite, all these regulations and activities of safety and security, in order to prevent accidents in DGT. They are generally caused by human mistakes, and their consequences on the population are severe and sometimes catastrophic, i.e., they may even be lethal to human beings and damage the environment.

Thousands of tons of dangerous goods travel by all modes of transport every day. The transport of dangerous goods must comply with the relevant rules applicable in the CEMAC sub-region for the transport of such goods so that the goods can reach their destination safely. This is due to the fact that, there is a risk of an event such as a spills, fire, explosion, chemical burns, or damage to the environment when transporting hazardous materials. Most goods are not considered as sufficiently dangerous to require special precautions during carriage. Some goods, however, have properties that mean that they are potentially dangerous if carried[2]. The framework adopted by members of the sub-region is intended to foster safety and security in the transportation process which culminate into protecting human life, property and the environment.

3. Dangerous Goods Regulations Applicable in the CEMAC Sub-Region

Members of the CEMAC sub-region have ratified several international instruments including adopting its own sub-regional laws intended to regulate the safe transportation of dangerous good across the zone.

3.1 International Instruments

3.1.1 United Nations Recommendations on the Transport of Dangerous Goods

These recommendations were developed by United Nations Economic and Social Council Committee of Experts on the Transportation of Dangerous Goods Ⅱ in 1956. The objective is to be a model regulation to set the standard in the multimodal transport of dangerous goods and to assure the safety of health, environment and properties in the carriage. These recommendations are referred to the international organizations and governments involved in the transport of dangerous goods regulation ns. These recommendations regulate the standard of the container, label, notification and dangerous goods documentary for the transporter, consignor and inspector in case of the possession or control of the dangerous goods[3].

The scope of these Regulations ensures the worth of all those who deal in the Transport of Dangerous Goods directly or indirectly. Among various other aspects, these Regulations cover principles of definition, classification, listing of dangerous goods, packing requirement, labeling or placarding, marking, testing procedures or transportation documents. Moreover, they also provide for special requirement related to a particular class of dangerous goods.

According to the classification, packing, listing, marking, labeling, carriers and document in general use, inspecting authorities and consignors have an advantage from streamlined transportation, control, and handling and from a decrease in time consuming rules. Resultantly, their jobs will be easier or more simplified as

[1] Mayer, J., Cornell, D. (2010). New perspectives on school safety and violence prevention. *Educational Researcher*, *39*, 5-6.

[2] Directive 2008/68/EC of the European Parliament and of the Council of 24 September 2008 on the Inland Transport of Dangerous Goods. *Official Journal of the European Union*, L 260/13, 30 September 2008. Available online: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32008L0068. Accessed on 24/06/2024.

[3] United Nation. (n.d.). Recommendations on the Transport of Dangerous Goods, https://www.unece.org/fileadmin/DAM/trans/danger/publi/unrec/rev17/English/00ER ev17_Recommendations.pdf (last visited July. 28, 2024).

impediments to the international transportation of the goods will be reduced. On the other hand, benefits will become more obvious as the commerce in the goods classified as dangerous increases[1].

3.1.2 Annex 18 of the International Civil Aviation Organization (ICAO)

With an increasing demand of dangerous goods, the role of air transportation in their carriage is becoming more important than ever. Since they are transported every day by air around the world, there was an increasing pressure for the enactment of international rules to guarantee a safe and secure transport of these goods across the globe bothering on its impact to the health of passengers, their lives and the environment[2]. The importance of such legislation lays the groundwork for the development of several international rules on dangerous goods transport by air. This, in turn, ensures that the carriage of dangerous goods is controlled within the safety standard, thereby providing a worldwide harmonization in aviation law succinctly apply by nations across the world.

Annex 18 together with Technical Instructions lay the foundation for the manual issued by the International Air Carrier Association. The manual regulating the transport of dangerous goods by air supplements the Technical Instructions. It consists of a set of procedures, the correct application of which ensures safety in the handling of dangerous goods. The 61st edition of the handbook is currently applicable. The manual is divided into 10 chapters and supplemented with eight annexes. These rules are updated once a year and the new edition of the manual comes into force on 1 January.[3]

The Handbook and Annex 18 establish the basis for the formulation of national law and airline regulations. International regulations define the responsibility of the consignor and the carrier. They also contain training requirements for those accepting dangerous goods for transport. They also describe the handling procedures used by ground handling staff[4].

The Technical Instructions for the Safe Transport of Dangerous Goods by Air are comprehensive rules which must be used in international transport of dangerous goods. The Instructions emphasize basic law connected to dangerous goods transport by air contained in Annex 18. The rules are extensive and they are obligatory in air transport. Furthermore, they also provide necessary details to operators, shippers, organizations or state authority concerned with the air transportation for the safe transport of dangerous goods. These are issued every two years to reflect UN cycle[5].

3.1.3 International Maritime Dangerous Goods Code (IMDG Code)

The International Maritime Dangerous Goods (IMDG) Code, written under the auspices of the International Maritime Organization (IMO), is a uniform international code for the transport of dangerous goods and marine pollutants by sea. It aims at enhancing "the safe carriage of dangerous goods while facilitating the free unrestricted movement of such goods and preventing pollution to the environment". The Code lists and describes the dangerous goods that may be carried by sea, and contains mandatory instructions on terminology, packaging, labelling, placarding, markings, stowage, segregation, ventilation, handling, training of shore-based personnel, and emergency response. It contains detailed technical specification of any cargo that is considered dangerous due to its flammable, corrosive, toxic, poisonous or other hazardous nature and properties[6].

3.1.4 International Convention for the Safety of Life at Sea, (SOLAS)

The International Convention for Safety of Life at Sea (SOLAS) was introduced in 1914 to respond to the Titanic Disaster. This Convention has amended in 1974 and is the most crucial treaty which deals with safety at sea. This Convention stipulates minimum standards for

[1] Ibid.

[2] International Civil Aviation Organization. (n.d.). The Transport of Dangerous Goods by Air‖, http://www.icao.int/safety/DangerousGoods/Pages/background.aspx. Last visited August. 20.2024.

[3] Annex 18 to the Convention on International Civil Aviation, Safe Transport of Dangerous Goods by Air, Fourth Edition, Dz.U. ULC item. 13.

[4] Ibid.

[5] The International Civil Aviation Organization. (n.d.). Technical Instructions for the Safe Transportation of Dangerous Goods by Air, http://www.bazl.admin.ch/experten/regulation/03080/03081/index.html? Last visited August 21, 2024.

[6] Nikaki, T., Soyer, B. (2012). New International Regime for Carriage of Goods by Sea: Contemporary, Certain, Inclusive and Efficient, or Just Another One for the Shelves. Retrieved from HEINONLINE: http://heinonline.org/HOL/Page?handle=hein.journals/berkjintlw30&div=13&g_ sent=1&collection=journals. Accessed 28/07/2024.

the construction, equipment and operation of ships for its protection. This Convention applies only to the vessels engaged in international voyages. The SOLAS 1960, which came into effect in 1965, introduced chapter vii to deal with the carriage of dangerous goods based on the report submitted by the UN Committee e of Experts on the Transport of Dangerous Goods in 1956, which sets minimum standards for the transportation of dangerous goods covering all modes of transportation. The 1974 Convention replaced this 1960 SOLAS Convention, and chapter vii deals with the carriage of hazardous goods. Other convention include; International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto (MARPOL 73/78 Convention) is one of the essential conventions which covers the prevention of marine pollution caused due to the accident that occurred and operational discharge of the ships. This Convention was adopted in 1973, and the 1978 protocol was made to respond to the tanker accidents in 1976-77.

3.2 Sub-Regional Regulations

3.2.1 The 1999 Regulations on Transportation of Hazardous Cargo by Road Within CEMAC

Regulation N2/99/UEAC-CM-654 regulating the transport of dangerous goods by road in the UDEAC/CEMAC Adopted in March 1999, define the conditions under which dangerous goods must be accepted for road transport and handling in the CEMAC sub-region[1]. They are designed to mitigate risks, prevent accidents, and protect human health and the environment during road transport of dangerous goods.

The regulations for the road transport of dangerous goods in Central Africa. (Malabo, 1999). Concluded between the CEMAC member states, governs the road transport of dangerous goods and supplements any other national or international requirement concerning road traffic, international road transport or international trade in goods. The regulations lays down the general process of dangerous goods classification, it identifies and categories hazardous materials into different classes based on their properties and associated risks[2]. It also, states the Conditions under which such goods must be accepted for transport road and handling in the sub-region. It is a collection of Environmental, safety and health requirements public transport and handling of certain goods, including non-compliance relieves shippers of liability, handlers and carriers.

From the importance that, the rules of the land transport of dangerous goods have, and in order to increase the safety, the law has defined all the necessary means for all participants that are engaged in the transportation of dangerous goods, in accordance with the nature and the predicted extent of the risk for reduction or avoidance of damages in people, property and the environment.

The road transport of hazardous materials is a highly regulated and safety-critical activity that, if not properly managed, can pose significant risks to public safety, property, and the environment[3]. During the period in which the goods are to be transported, the consignor of the dangerous goods, either a natural or legal person, who is listed as the consignor of goods in the documents of the transport of goods, may deliver the goods only under certain conditions. If the consignor acts on behalf of a third party, he is obliged to inform the consignor in writing for the dangerous goods that will be shipped, and must send him all the necessary information and documents that are needed to perform his own duties. The conditions, which must be fulfilled by the consignor of dangerous goods, are determined by the law and regulations, and are in full compliance with the conditions set by the central Africa and monetary community regulation concerning transport of hazardous cargo within the sub-region[4].

As concerned, the transportation of explosive and radioactive materials from or to the countries of the sub-region is subject to a special authorization from the government of the countries through[5].

Radioactive or explosive materials shall be carried out under close surveillance and escort by law enforcement forces throughout the route taken. This escort of the law enforcement forces ensures the clearance of operations at the border customs post before proceeding with the

[1] Regulation N2/99/UEAC-CM-654 regulating the transport of Dangerous goods by road in UDEAC/CEMAC.

[2] Ibid.

[3] Li Zhaohua. (2022). Research on safety supervision of dangerous goods road transportation based on 4R crisis management model. Three Gorges University.

[4] Ibid.

[5] See article 118 of the 1999 law on the transport of hazardous cargo by road in CEMAC.

transfer of the said goods by the competent authorities of the country of destination or transit. Moreover, Containers or other packaging used for the packaging of radioactive material during transport shall not be used for any other purpose[1].

During transportation, the carrier has an obligation to ensure the preservation of the explosive, radioactive, flammable and poisonous goods-items from the receipt of the goods for transport until the moment of delivery. In the country in which the dangerous goods are loaded, unloaded or reloaded other persons cannot be present, except the personnel participating in handling the dangerous goods. Only train workers are allowed to participate during these manipulations with dangerous goods, while untrained workers must be under the supervision of a person who is professionally trained in handling the dangerous goods. Whenever the shipments of explosives, poisonous freight and of radioactive materials are transported, they are followed all the way of transport[2]. All Packages containing dangerous goods may not be opened during transport[3].

The sub-regional legislation provides, Persons participating in movement of dangerous goods, must fulfill their obligations, and shall comply with the requirements applicable in the movement of dangerous goods stipulated in the sub-regional instrument, and as further specified in the international agreements indicated in the different legal instruments analyze to which the member states are party to, taking into consideration the different means of transportation (road, sea and air).

4. Conclusion

When transporting dangerous goods nationally and internationally by road, sea and air and especially when changing modes of transport, the various laws and regulations must be observed[4]. Thus, those involved in the transport of dangerous goods shall take the necessary precautions, taking into account the nature and extent of the foreseeable risks, to prevent damage and, if damage does occur, to keep its extent as minimized as possible. The sub-region, which consist of six states: Cameroon, Central African Republic, Chad, Republic of the Congo, Equatorial Guinea, and Gabon, made up of both landlocked and non-landlocked states, understanding the specific regulations and guidelines when transporting dangerous cargo to any member states is essential in ensuring the safety of lives, property and the environment which remains vital aspects of the regulations.

[1] See article 119 of the 1999 law on the transport of hazardous cargo in CEMAC.

[2] Ibid.

[3] See article 111 of the 199 law on transport of hazardous cargo by road in CEMAC.

[4] Dangerous Goods Transport: Regulations and Lawhttps://www.gesetze-im-internet.de/ggvseb/accessed 17/09/2024.

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See article 111 of the 199 law on transport of hazardous cargo by road in CEMAC.

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