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The orientation of Green logistic in developing countries

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Abstract: Green logistics describes all attempts to measure and minimize the ecological impact of logistics activities. This includes all activities of the forward and reverse flows of products, information and services between the point of origin and the point of consumption. It is the aim to create a sustainable company value using a balance of economic and environmental efficiency. Green logistics has its origin in the mid 1980s and was a concept to characterize logistics systems and approaches that use advanced technology and equipment to minimize environmental damage during operations.The logistical activities comprise freight transport, storage, inventory management, materials handling and all the related information processing. The main objective of logistics is to co-ordinate these activities in a way that meets customer requirements at minimum cost. In the past this cost has been defined in purely monetary terms. As concern for the environment rises, companies must take more account of the external costs of logistics associated mainly with climate change, air pollution, noise, vibration and accidents.

Keywords: green logistic, environmental pollution, marine environment

I. INTRODUCTION

Green logistics is a form of logistics which is calculated to be environmentally and often socially friendly in addition to economically functional. It describes all attempts to measure and minimise the ecological impact of logistics activities. This includes all activities of the forward and reverse flows of products, information and services between the point of origin and the point of consumption. It is the aim to create a sustainable company value using a balance of economic and environmental efficiency.The means that are currently taking up most of the logistic operations in Vietnam are too old and outdated, considering the environmental criteria, there must be some inaccuracy. Shipping by road, rail or road is severely affecting the environment, so environmental projects need to be studied at the macro level. Environmental status reports have shown that the quality of the marine environment and coastal areas continues to decline. For the railways sector, according to survey data, more than 10 tons of manure and rubbish are discharged directly to the railways every day, causing railroads such as sleepers, railroads, Bridging, polluting the surrounding environment and the life of the community. It is noteworthy that shipping, current and future, when the regulations on safety and prevention of environmental pollution of international organizations regularly change, the old fleet of Vietnamese ships running international routes will make the fleet of Vietnam hard to keep up. Vietnam shipping activities are very difficult to sustain in the shipping industry in the world if has not urgent and efficient solution. For the aviation industry, as of November 30, 2010, ICAO has accelerated international efforts to establish a global CO2 emissions market for the aviation industry. ICAO promotes many options for reducing ICAO 190-member civil aviation emissions reductions by early 2012, seeking deals by the end of 2012 to approve the establishment of a new emissions market in September 2013. These agreements also include increasing use of biofuels, the most effective way of reducing fuel use for planes and air routes.

In the coming time, the aviation industry will have to face new laws. As of January 1, 2012, all airlines with flights to and from the EU will be required to participate in the airline's Joint Aviation Trading Program, in Europe. This means that firms that do not participate in the program or do not meet emissions requirements may be barred from flying into the EU.Two Airbus and Boeing aircraft makers are competing in recycling old aircraft and producing eco-friendly aircraft. In April 2006, the old Aircraft Recycling Association (AFRA) came into existence, including 23 companies capable of recycling 150 old aircraft a year. And for the first time, the first full-size Boeing 787 Dreamliner with a shell was made entirely of lightweight material, not steel or aluminum, to save money and consume less fuel than other aircraft.

Fig. 1. Flowchart of green logistics

While tariffs on international trade are increasingly strong, Vietnam's export competition is increasingly dependent on factors such as quality, labor productivity and especially logistics costs in transportation costs. low. Since 2000, the volume of goods transportation has been constantly increasing by about 10% per year, much higher than GDP growth. Such a rapid increase creates high pressure on the development and maintenance of infrastructure to meet the needs of complex transport and efficient logistics services. Three factors to promote this are: the backbone infrastructure must be fully developed; efficient and reliable transport and logistics services; Multi-modal networks are seamlessly connected with lower transport costs and higher sustainability. Vietnam is strongly mechanizing and the number of registered trucks has surpassed 1.1 million units; National ship connectivity index has increased from 12.9% in 2004 to 68.8% in 2018. However, despite the increase in quantity, there is still a problem of quality of transport services. Mr. Ousmane said that in the future, the private sector will be heavily involved in the development of transport and logistics services as transport companies or warehouse operators. The government will need to create more favorable environments for the development of these businesses. The government can create lending opportunities, eliminate infrastructure constraints to attract private investment in large truck and fleet fleets, encouraging international service providers. There are many new technologies to cooperate with domestic enterprises. In addition, it is necessary to build a multi-modal interconnected transport network to minimize transportation costs and enhance the sustainability of the system. Therefore, the Government, when taking steps on budgeting, should allocate budget optimally among transport modes. Multimodal transport will enhance connectivity and improve network resilience, reduce logistics costs, and reduce greenhouse gas emissions at the national level.

II. POLLUTION RISK FROM LOGISTICS AND TRANSPORTATION

Environmental pollution has become a problem not only of a country, an area but a common concern of all humanity. The process of socio-economic development of the countries in the world has led to great impacts

on the environment, making the habitat of human species changed and tends to become more and more low-level important. These include climate change - global warming, ozone depletion and acid rain ... especially air pollution caused by transportation. In Vietnam, environmental pollution in large urban areas is becoming an urgent issue.

For years, scientists at Yale University and Columbia University's environmental research centers in the United States have conducted Environmental Performance Index (EPI) research in 132 countries, The results show that Vietnam is ranked 79th on this list. Based on the world's allowable standards for air quality index (Air Quality Index - AQI), if the level of clean air is from 150-200 points, it will be considered pollution, from 201-300 considered extremely urgent, seriously affecting the health of people. Meanwhile, in Vietnam, the two most polluted areas are Hanoi and Ho Chi Minh City, the AIQ index during the day was at 122-178. In the peak hours, when traffic jams or congestion occur, the AIQ index in large urban areas must be over 200. This shows that Vietnam is standing at the threshold of pollution. serious gas, causing incalculable hazards to people's health. According to the EPI survey, Vietnam is among the 10 countries with the lowest air quality index (ranked 123) and is expected to fall to 125th place in the near future. This is an alarming information with the air environment in our country today.The problem of air pollution caused by urban transport activities in our country comes from many different causes. First of all, it is the impact of urbanization associated with the industrialization process. The process of urbanization on one hand will promote economic and social development and lead to an increase in urban population. Currently, the urban population in our country is increasing rapidly and there are no signs of restraint. In 2002, the new urban population accounted for 25% of the national population. In 2012, the urban population reached 34% and in 2015 it was 35.7%. This leads to an increasing number of motor vehicles in urban areas. According to data of the Traffic Police Department, in 2015 there were 50,682,934 vehicles nationwide (2,932,080 cars, 47,760,854 motorbikes and motorbikes). Only the total number of motor vehicles under management in Hanoi is 5,591,729 vehicles (546,057 cars, 5,045,672 motorbikes and motorbikes) in Ho Chi Minh City. is 7,420,395 vehicles (556,688 cars, 6,863,707 motorbikes, motorbikes).The quality of transport is also a very important issue. Most of the used cars and motorbikes in circulation do not have exhaust controllers for the environment. Meanwhile, many people in traffic in Vietnam do not have the routine of maintenance of vehicles as recommended by the manufacturer. Vehicles after a period of using the fuel injection system will be exposed, gasoline is likely to burn. The engine that burns out of gas also produces benzene in the exhaust pipe. When vehicles are regularly maintained, they will help the engine work better, fuel consumption is less, so the amount of vehicle emissions to the environment is also less. On the other hand, it also helps the vehicle structure better and safer during circulation. Therefore, many individual vehicles do not strictly implement the periodical warranty and maintenance regime, which causes the increase of gas emissions to the environment with increasing levels of toxicity. In particular, many old and decrepit vehicles, which are still in use by the end of the year, not only threaten the safety of lives for traffic participants but also seriously affect the air quality of the traffic urban, threatening people's health and life.By 2020, 80% of railway carriages will be built, completing the noise map for all airports; Maintaining the implementation of motor vehicle emission standards; 70% of international seaports; 50% of domestic inland wharf ports are equipped with means, equipment for collecting garbage and waste oil from ships. And to orient to 2030, focus on developing environmentally friendly transportation system, basically controlling the polluting components in all areas of road, railway, waterway Domestic, maritime and aviation.

Green Logistics describes activities to calculate and minimize the ecological impact of logistics operations. This includes all front and back transactions of products, information and services between production start points and points of sale. It is the purpose to create a sustainable corporate value based on the balance between economic efficiency and environmental protection. The concept of green logistics has its roots in the mid-1980s and is a concept that describes logistics systems and methods using advanced technology and equipment to minimize environmental damage during operation.The eco-friendly train system at 300 km/h in Taiwan is a template that limits the amount of greenhouse gases that cause warming and enhances the standard of living for the majority of people. Be sustainable for the environment, using elevated rails instead of diesel engines will produce only one-quarter the amount of CO2. Train passengers spend only half the energy and release a quarter of CO2 compared to bus riders.

In recent years, projects of enterprises and environmental action programs have been launched, even though they have just started, but they are good signs for the Vietnamese logistics industry.On June 30, 2010, the Vietnamese Ministry of Transport issued Circular No. 16/2010 regulating details of management and operation of airports and airfields. The Circular clearly stipulates that projects on planning and investment in the construction of airports and airfields must be made in the form of environmental impact assessment reports and be subject to inspection and supervision of the implementation of environmental protection measures. , Must comply with the law on environmental protection, civil aviation law, Vietnam's environmental standards and treaties to which Vietnam is a member.Especially, on 06.6.2011, the Prime Minister issued Decision No.

855/QD-TTg approving the project on environmental pollution control in transportation activities with a total approved budget of 700 billions dong. The overall goal is to control, prevent and limit the increase of environmental pollution, aiming to build a sustainable and environmentally friendly transport system. Accordingly, by 2017, at least 25% of new rail car coaches will be built, 30% of international seaports will be equipped with means of collection and treatment of waste and waste oil from ships, noise map for 50% airports. Global production is increasingly concentrated in China, India, Russia and Brazil. The center of the world economy is also shifting to Asia. The development of production and consumption increases the volume of goods and transportation distances, raising the demand for global supply chain management and control. Many countries have developed programs and strategies to develop a green logistics system that meets the requirements of economic development, enhances the competitive position and protects national interests.

Vietnam's logistics industry is in its early stages of development. The competitiveness of industries and enterprises is still low compared to other countries. If Vietnam's logistics industry is expected to integrate and develop in the near future, in addition to the active efforts of the business itself, the government, industry and localities cannot stand by. They need more attention and support to implement urgent mid- and long-term solutions to develop the green logistics system in Vietnam, firstly planning to establish logistics centers. At international ports, the highway connects the main means of transportation in the distribution and circulation of goods. Reviewing packaging, waste disposal, fuel consumption and related factors at different steps of commodity production and transition processes will be the key to the success of these efforts. The marine environment is heavily polluted by industrial, agricultural and aquacultural waste, household waste, but the impact of oil pollution on shipping, shipbuilding and seaports. Need alerts to minimize the stronger. Oil and oil spills despite the 0.1mg/litter of oil content in water can also cause zooplankton mortality and greatly affect juveniles and larvae of marine organisms. However, the seawater of HaiPhong coastal zone has the oil concentration in the water regularly exceeding the permitted limit of 100-300%. A recent report from the HaiPhong Department of Natural Resources and Environment showed that the area with high oil content is the water surface of HaiPhong port with an oil content of 0.3-0.6mg / l, exceeding the permitted level. The coastal area of HaiAn district, KienThuy district, average oil content of about 0.6mg / l. Bach Dang estuary concentration of oil tends to increase, especially in the Department of Oil.

Commercial logistics services in Vietnam began to develop in the 1990s on the basis of freight forwarding services, which are now in the early stages of development. According to the LPI in 2014, Vietnam ranked 48 out of 160 countries surveyed and ranked fourth in ASEAN countries (after Singapore, Malaysia and Thailand). By 2014, the logistics industry contributes about 3% of GDP, (Thailand is 3% in 2014, Singapore is 9.4% in 2014). The current outsourcing rate is about 30-35%, (China is 63.3%, 2010). The level of service provided by logistics companies in Vietnam is still limited, showing that the service price is not competitive and the quality of service is not high, thus the labor productivity and competitiveness are still limited. cover. Statistical capacity of logistics needs to be improved. Logistics costs are equivalent to about 21% of GDP (China is 17.8%, 2011), while developed countries like Singapore are about 9% - 14%. The average growth rate of logistics services in the past years is from 16-20% per year. The government's plan is to grow logistics services by about 24-25% a year by 2020 and by 2030 by 34-35% a year. It can be said that logistics services in Vietnam have a fast and stable development.The logistics service system in Vietnam now consists of four components: the institution, the development policy and the law governing logistics services; Infrastructure (including hard infrastructure and soft infrastructure); Logistics service providers; Consumers of logistics services.

III. ISSUE OF GREEN LOGISTICS

Economic development associated with environmental ecological balance activities is becoming an inevitable trend and an important criterion for assessing sustainable development. Therefore, projects to support the development of transport and logistics to reduce emissions to the environment are extremely important not only for Vietnam but also for countries in the region and the world. In recent years, the socio-economic development of the GMS countries has been strongly developed, attracting foreign investment, and transportation has also been invested and developed. Vietnam is considered to be the fastest growing country in the GMS region with a strong geographical position, natural resources, people. In parallel with development, we are faced with the fact that economic activities including transport and logistics activities are the causes of a wide range of issues including global warming. , environmental degradation and increased greenhouse gas emissions.

Sustainable transport of goods and logistics in the Mekong region is a project with the aim of increasing sustainability in transport and logistic through effective and safe fuel use measures for at least 500 small and medium enterprises (SME) in 5 countries Vietnam, Laos, Cambodia, Myanmar and Thailand.Speaking at the project review conference, Mr. Tom Corrie, Deputy Head of Development

Cooperation - European Union Delegation in Vietnam said: "GMS regional logistics market is organized locally and fragmented, owner weakly small and medium enterprises, the widespread use of the old transportation system leads to high demand for fuel, increasing CO2 emissions to the environment. The goal of the project is to target the "Green Transport" industry to address climate change, enhance traffic safety and implement effective practices on countries. In fact, if the environmental criteria are not fulfilled, businesses will be gradually eliminated from business and commercial activities. Therefore, green logistics projects have an extremely important meaning not only for Vietnam in particular and for the whole region in general. The Mekong region's sustainable cargo and logistics project has supported the road and logistics industry through four components: efficient fuel use, dangerous goods transportation, financial access, and policy and consumer awareness.After 36 months (from February 1, 2016 to January 31, 2019), the project has achieved great success. In particular, outstanding results must be mentioned that 100 enterprises are trained in eco-driving and defensive driving, saving 11.4 - 11.7% of fuel equivalent to reducing CO2 emissions into the environment. ; Some private businesses have conducted self-retraining for their driver for 276 drivers; Establish working group of members from different ministries and branches; EU-ADR has been translated into Vietnamese and recognized by the Ministry of Transport; Organize workshops with existing truck manufacturers and financial institutions; 15 enterprises applied for certificate of VTX by VTX Asia. As an ASEAN member country and GMS, Vietnam is committed to participating in the implementation of regional transport agreements such as the Agreement on the Facilitation of Transport of People and Goods across the Mekong River Sub-region. Broad (GMS - CBTA) and ASEAN Framework Agreement. In order to implement GMS - CBTA in accordance with the provisions of the Agreement, Vietnam needs to be ready about the infrastructure, driver's capacity, regulations on dangerous goods transport along with procedural and vehicle policies that are expected. Sustainable cargo and logistics projects in the Mekong region are very valuable support.Logistics is one of many types of large-scale commercial infrastructure, which in the process of operation always has certain effects on the environment. Therefore, the direction of environmental protection in the development of logistics system should ensure the conditions:

i. The development of logistics centers should be carried out on the basis of the implementation of the master plan for trade development in the country, the planning of other infrastructure systems, especially the planning of transport sector, urban planning, residential planning.
ii. Development of logistics centers must be associated with the requirements to improve the responsibility of the environmental management of the competent agencies in terms of planning management, investment licensing and environmental management. According to the provisions of Decree No. 80/2006 / ND-CP, Decree No. 21/2008/ND-CP; Circular 08/2006/TT-BTNMT, the project owners are responsible for making environmental impact assessment report, environmental protection commitment, environmental protection project. However, due to various reasons, many investors have not fully implemented these regulations.

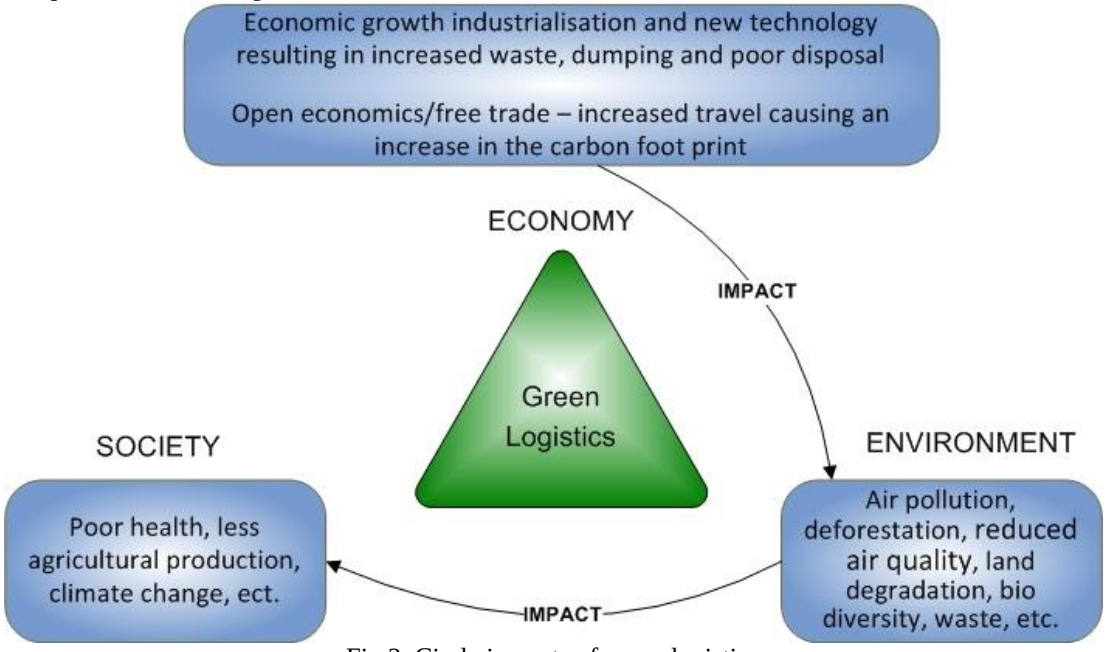

Fig 2. Circle impacts of green logistics

iii. Development of logistics centers must be associated with raising the social responsibility and environmental protection of enterprises of all economic sectors involved in investment. The capital for the construction of logistics centers is actively mobilized from all resources of society, on the basis of ensuring reasonable benefits to attract investment of enterprises, including FDI enterprises.Improving the social responsibility of the environment for investment in the logistics system is not only to prevent negative impacts on the environment, but also to promote the positive aspects of enterprises in improving the environment. . For example, in the space of building a logistics center, if the company promotes social responsibility for the environment, then the enterprise will choose the investment plan in harmony with surrounding landscape and architecture.

iv. The process of industrialization, rapid urbanization is causing a lot of pressure on environmental pollution. In addition, the formation and development of large-scale logistics centers will increase the pressure on environmental pollution and the response to environmental incidents. Therefore, the planning implementation must be accompanied with the plan to strengthen the inspection and assessment of environmental impacts during the operation of the logistics center.

v. The investment licensing of large-scale logistics centers in areas that are close to the inner city need to be limited. But it needs to encourage the development of urban periphery to minimize the flow of traffic, people and goods concentrated in the medium At the same time improve the ability to solve environmental problems on the basis of reasonable allocation of green areas and water surface in the project area.According to the trend of development in general and development of logistics system in particular in our country until 2020, orientation to 2030, the areas to be considered are the South East, Red River Delta, South Central Coast. The increase in large-scale logistics centers increases the risk of environmental impact.To take advantage of the advantages, opportunities and bring Vietnam's logistics sector from young and less competitive to a key economic sector of Vietnam and make a great contribution to the improvement of the overall competitiveness of the whole. The economy, on February 14, 2017, the Prime Minister signed Decision 200 promulgating the Action Plan to improve competitiveness and develop Vietnam logistics services by 2025, expressing the concern of the Government. covered for a very important sector of the economy. According to the task, it is the focal point to build the annual Logistics Report to review, evaluate and provide information on the situation and prospects of Vietnam and international logistics markets, review the effectiveness of the inter-policy regulations. in fact; contributing to the state management, production, business and investment activities of enterprises and scientific research and communication in logistics, focusing on the main contents including:

i. Logistics business environment, in which analyzing the business environment of Vietnam and international, the special logistics legal framework is the legal documents on logistics issued in 2017 and issues other topics such as the participation in the trade facilitation agreement of the WTO, the national single window and ASEAN Single Window, administrative reforms;
ii. Vietnam's logistics infrastructure;
iii. Logistics business results in Vietnam;
iv. Vietnam logistics enterprises;
v. Logistics in production and business activities;
vi. Technology development and logistics human resource training; and
vii. International cooperation in logistics.

IV. CONCLUSION

The sustainability of urban logistics is an important issue for fast-growing cities around the world. Although many cities have developed strategies to move people more effectively and safely. in an urban environment, but pay little attention to the importance of delivering goods to people in the workplace and at home. It is a problem hidden behind a sketchy vision, because urban infrastructure is often not designed to meet important logistics services. The crowded streets, with no parking and poor sidewalks of buildings, have become a symbolic image of urban life. Therefore, in order to develop sustainably, businesses need to change the traditional logistics model to green logistics, which rationally uses energy sources, minimizing noise, waste and gas emissions into the environment. It is the assurance of the harmony between economic benefits in the environmental relationship of green logistics that will ensure the sustainable development of the economy. Green logistics will ensure the flow of goods and services is facilitated, reduce transportation costs, reduce negative impacts on the economic and social environment, thereby helping the economy to improve its edge. paintings, especially in the context of open and integrated economies. The development of green logistics will

actively support the reduction of the level of environmental pollution due to the impact of production, business and goods transport activities.

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