

IMPACT OF LOGISTICS AND SHIPPING IN THE SUSTAINABLE DEVELOPMENT OF SOCIETIES

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Definitely, although not very obvious, shipping affects the daily lives of the majority of the world population. The socio-economic implications of logistics undoubtedly affect the social development of cities. With the implementation of sustainability in the supply chain, and not only think of a commercial profit but in an overall benefit in mind the impact it is having on the ecosystem. Solutions, research and discussion topics to open an academic contribution is interesting, that would open up discussions.

Keywords: Supply chain, Social development, Sustainable development

1. INTRODUCTION

The Maritime shipping guarantees the movement of about more than 90% of the goods being transported worldwide[1].

Having in mind this percentage, we understand the importance of this transport system, which over the years has become the cornerstone of supplies most of the world's communities, especially in the western hemisphere, which in most cases, it imports the majority of the goods than it consumes.

But shipping alone is not sufficient, as is known, it is necessary for interconnection with other modes of transport to carry the goods to the final customer or end consumer sites, hence the importance of strengthening the supply chain.

Initially, these transport systems were offered separately, ensuring shipping only "port to port." Over the time, the evolution of transport systems and the search for added value and qualitative improvement in ordinary operations, led to the trend "door to door", where, as is known; is necessary to connect with different kinds of transport, for complete the final stage of delivering the goods to the final customer, in some cases with a step by trains, and in other cases with the truck directly from the terminal.

The truck's companies, in most cases are formed by small and medium businesses and personal self, which is a sub-contracted service that thanks to intermodality provides the customer with a single cost and especially a common documentation, which generates the sought value to the land-sea section and aims to ensure customer's reliability in delivering his merchandise.

However, it should be noted that this increases costs, because if it is true that maritime shipping is the cheapest way of transport, it is also true that road transport is the most expensive, thus, the ability of the maritime lines, to negotiate prices based on the high volume of movement, generates to the client attractive offers highly competitive, which affects the final price of the contract of carriage.

In most carriers, these costs are separate, that is, one side pays the freight and expenses proper cargo terminal at port of origin, and secondly the delivery charges are paid at the port of destination, which allows the benefits of management are shared between the offices that actually make it, maintaining a common relation to the same company with different locations, providing a unique corporate image to customers.

Transport as is known, crosses the globe to bring these goods to those buyers who are waiting to turn sell them to third parties, depending on the distance between the port and place of delivery, it is necessary to interconnect different modes of transport, in what we call the supply chain.

2. THE SOCIAL IMPACT OF SUSTAINABLE LOGISTICS

Given the importance of freight, we can say that the development of a nation may depend largely on logistics.

The supply chain is a major source of income for the economies of countries and companies involved therein.

Today's businesses in the logistics sector to actively participate in Sustainable Development which "is a socio-ecological process characterized by a behavior for an ideal" [2] that is to generate a given development respecting the environment in which we live.

This ideal is infinitely approaching and it is precisely this approach that allows infinite process of sustainable development is maintained over time and space with the infinite ingenuity of man, which today is unattainable in the near future may become a target long term then become a short-term goal and finally a reality.

If part of the above principles, and sustainability should be a permanent reality in all companies that intend to stay in time, but it is common knowledge that in most cases, this has remained in theory and reality is unfortunately different.

The polluting effects of freight transport have grown over the years, and now, has not yet found a solution applicable to use alternative fuels for ships and trucks and trains in some cases, what has generated the Economic growth in the logistics have not been proportional to the desired sustainability by being very important and must be the reason for all international business: the Company.

In some cases, global logistics growth is back to society, and even approaching it from the standpoint of preserving the environment, society has every interest in preserving it, because the survival of the species depends mainly on the existence of the planet, yet to see major projects logistics group takes into account the income, technological improvements, technical advances, but no, at least to the extent that they should always do the fact that the development is "sustainable" and ensure that growth is not detrimental to the environment.

Social welfare should be the main reason for a country's economic growth because of these big business challenges, originating sources of employment, new economic activities that work with improving the social status of people living in that area, thanks the conversion of spaces for public use, or plan of land uses, where up new areas of logistics development which always has a social benefit.

The main suppliers in the world are the populations with the highest degree of poverty, and the idea of sustainability is often away precisely because many of the more powerful the aim to establish in large cities.



One of the best known is the export of timber from the Amazon deforestation criminal and other forests, worldwide logistics but this is unsustainable, which ends in many homes around the world in various forms, from furniture to the ground inside the containers, etc. and even indiscriminate logging in Africa, which also plays an important supply chain but not working with social development or economic growth in the region, this represents one of the most important challenges to overcome.

Fig. 1: The logistics of wood source.Source: www.delmas.com

3. POLLUTING EFFECTS OF TRANSPORT & RISK FACTORS

The effects of goods's transport aid the destruction of the ozone layer and global warming. By other hand, vehicles are also the main source of noise pollution in large cities.

In Spain, for example; in 2005 was 27,657 thousand cars. It is considered that 74% of the Spanish population is subjected to high noise levels [3]

Pollution related to transport continues to increase each year, despite policies to reduce greenhouse gases. These account for 22.6% of CO₂ emissions and 37% for oxides of nitrogen [4]

Growing energy demand and energy sources are depleted. The 15% of the world population consumes 70% of energy and natural resources available on the planet.

According to the World Trade Organization, if all countries could reach the western way of life, it would take three Earths planet to supply us with the necessary energy and natural resources [5]

Moreover, as can be seen on the next graphic, the price of oil continues to rise and climate change is accelerating as a result of our current way of life.

4. POSSIBLE SOLUTIONS

Rethinking the theoretical foundation of logistics today, brings a change of consciousness that allows us to address sustainable, economic growth and social development. Some possible solutions studied by experts are:

- Reduce emissions from transport units used in logistics. The current logistics depends mainly on the road, for achieve que "door to door " transport; so, the truck for the moment is irreplaceable, one solution would be to encourage the use of non-polluting means-based "biofuels", which make more effective reduction of CO₂ emissions.
- As is well known, Biofuels are fuels derived from biological origin of organic remains of renewable materials. Most employees are biodiesel and bioethanol and the biodiesel is produced from vegetable oils and animal fats.
- By other hand; Bioethanol is an alcohol produced by fermentation of sugar products as sugar beet and sugar cane. It also comes from cereal grains such as wheat, barley and corn. Among the advantages provided by biofuels, will point out just a few:
 - Reduce emissions of CO₂ in the atmosphere, fighting against global warming.
 - They are biodegradable.
 - Reduce dependence on oil and gas.
 - Revitalize the rural economy, foster new markets and create jobs. (Social benefits)



Graphics that demonstrate the evolution of the IFO 380 price during the year 2011 (www.bunkerworld.com)

Fig. 2: Graphic showing the growth of the price of IFO 380 during the year 2011, Source: www.bunkerworld.com

However, the transition from fossil fuels to biofuels is to be performed with great responsibility, and progressively, without affecting the food market. Recent experiences have shown that inefficient management of these resources, increased cereal prices, and therefore of both vegetable and meat foods, directly affecting the economy of the societies, which promote rather than worsened the quality of lives of people and favored speculation in such strategic sectors such as food.

An efficient matter, among other things, encouraging new productions, establishing new points of cultivation in areas previously not engaged in agriculture, benefiting the economy of populations at risk of exclusion zones in economically reviving the past could have been economically inactive, and if farmers in the food sector also want to enter this market, should ensure a verifiable manner, which would not affect the production of foodstuffs, demonstrating its length and opening new areas just for this purpose.

Moreover, all this process must be constantly accompanied by a system of R+D+I that would ensure continuous improvement and seeking to optimize these processes.

Additionally, the sun, wind and water are good allies because they are inexhaustible sources that pollute so little, and the environmental impact they cause is minimal.

As can be seen, clean energy like solar, wind, biomass and biofuels are a solution and the logistics sector is not excluded in this topic.

5. CONCLUSIONS

Encourage the Short Sea Shipping, which certainly competes with road transport which the European Union, maintaining similar growth rates, measured in tons per kilometer of about 40% and where in the available data, between 1990 and 1997 grew by 23% in tons per kilometer of road transport being 26% in tonne-kilometers [6]. These emissions cause the inhabitants of the traffic areas, are subject to pollution levels well above those recommended by the WHO [7].

This type of transport must be sold to the owners of the transoceanic shipping as an opportunity for profitable and efficient business that is competitive and guaranteed ship calls on a regular, uninterrupted service, and performance bonds, as the be vessels of short routes, and rely on existing demands in the area, in many cases without sufficient volume to Maximize scale, canceled, causing delays in loading on port occupation costs, and problems in many cases end customers on site, waiting for their merchandise margins short time, receiving a service in many cases inefficient.

Keep in mind that it has been shown in several studies, the Short Sea Shipping, reduce pollution, as an example highlighting the values that are dramatically reduced, for example the Carbon Dioxide, Nitrous Oxide, Carbon Monoxide, non-methane volatile compounds, and others.

This is why we think that in places where this type of transport is applicable, must work through government policies and business initiatives that allow water to increase traffic.

Sustainability must go hand in hand with social benefits such as employment generation citizens of the areas in business development, education for local people working in the areas of logistics, but a complete shift in consciousness that can allow the entities involved in these countries begin now with the concept of preservation of the environment as normal way of life, and the fundamental basis of business developments in the logistics sector.

One of the most innovatory is the creation of Motorways of the Sea as a model of clean and efficient transport, which consist of short-sea routes between two points, less distance by land, which through intermodal transport costs significantly improving the logistics chain

It is also more convenient for shipping while reducing emissions from transport reduce congestion and noise pollution caused by road transport.

In short, the logistics sector must begin to work with the ideas you have as a central socio-ecological benefit of the companies, because if not, we will continue aimed at making the same mistakes.

But without a sustainable development is impossible to benefit society, and if it keeps growing back to the people, will be not enough to preserve a planet if most of its area is inhabited by humans eventually sentenced to death by starvation or suffer the stigma of forced displacement, which generates social inequality, marginalization and humiliation of

their dignity by a lack of knowledge and understanding of the causes of these social phenomena and transport and logistics chain can do much in favor of a better way of life

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