



DECARBONIZATION OF PORTS AND INLAND WATERWAYS IN TIMES OF CRISIS

Jorge Vergara

Director – Directorate of Strategic Projects (DIPE) of the
Ministry of Public Works and Communications (MOPC)



Introduction

- In Paraguay, the ports and river transportation gain relevance because of their:
 - Low cost
 - Ability to move big volumes of freight
 - Above all else, its low impact to the environment.
- The **Paraná-Paraguay Waterway** is 3442 km long, north to south, from Port Cáceres (Brazil) to Port Nueva Palmira (Uruguay).
 - Within this system, the most important to us is the Paraguay River, which has a length of 1254 km inside our country and shared border.





- We are currently working on a **Waterway Project**, which is in the feasibility stage.
- In the Paraná-Paraguay Waterway, the northern section of Asunción is not working to its fullest potential due to the lack of dredging and sign posting. The project we are working on would solve this.
- The majority of Paraguay's exports are transported by waterway.
- 85% of this mode of transport is the engine of our economy.
- For the last 10 to 11 years, the Paraguayan river fleet increased from 15 tugboats and 100 barges to 150 to 3000, respectively, becoming the world's 3rd largest river fleet.

Impacts of the Crisis on Ports and Waterways

- The river ports on the Paraná and Paraguay Rivers act as convergence and commercial connecting points for goods coming from maritime ports in neighboring countries.
- They are located in the areas most vulnerable to the impacts of climate change, such as drought and the resulting descent of river levels, and in other occasions, flooding.

- There are currently a dozen private ports situated on the Paraná and Paraguay Rivers.
- Around 25 million tons of freight are transported through our rivers annually.
- The main type of shipment is grains.



Impacts of the Crisis on Ports and Waterways

- Regarding the health crisis, there is a general stagnancy globally. This affects international commerce and, consequently, prices.
- Before quarantine, the Paraguay River was already at critically low levels of water, which prevented normal navigation.
- The scenario before (pre-pandemic) allowed Paraguay to trade its production with the world while ignoring the main market, China, which represents 70% of the world's market for grains. We work with the other 30%.
- Imports: ↓ 81%
- Exports: ↓ 50% in April and ↓ 37% in May.

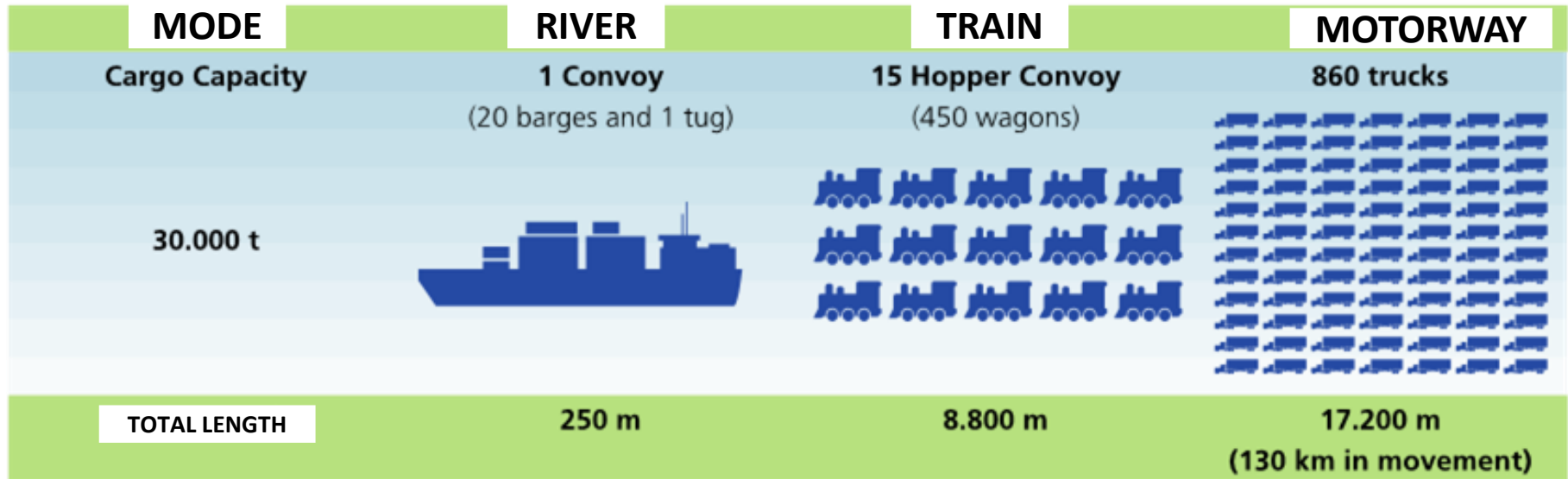


How to contribute to overcoming this crisis while also reduce emissions

- We must work at the local and international levels. Some ideas are:
 - In this uncertain situation, create an environment of certainty and trust in the strategic sectors that relate to exports.
 - Strengthen the internal market and preserve jobs.
 - Work and management in the international level with markets that are already open and are soon to open.



COMPARISON – MODES OF TRANSPORTATION



Además, permite un importante ahorro energético (un HP mueve 150 Kg en camión, 500 Kg en ferrocarril, y 4.000 Kg en una embarcación).

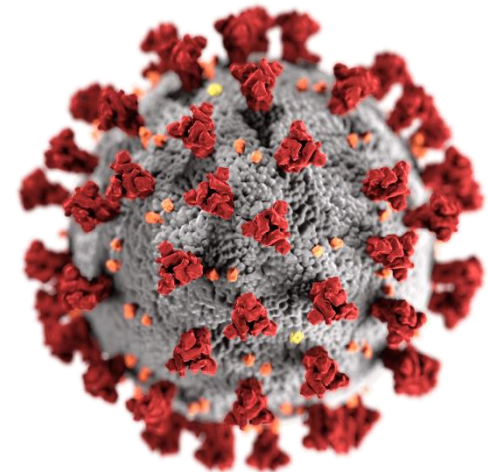
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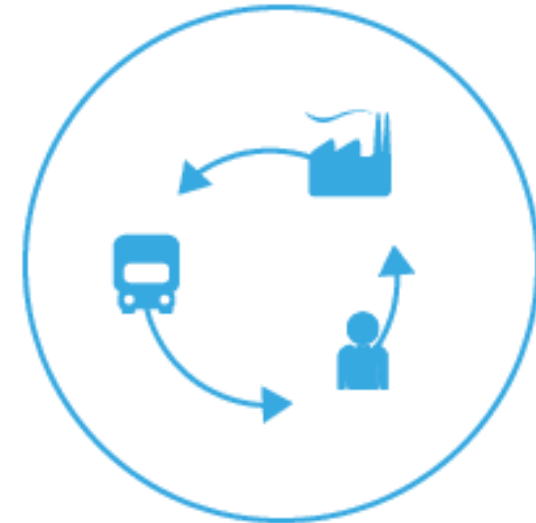
- Truck: 1 HP moves 150
 - Railway: 1 HP moves 500 kilos
 - Ship: 1 HP moves 4000 kilos
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- This translates to a reduction of 83% in greenhouse gas emissions.
 - The Waterway also helps decongest road traffic and reduce wearing of motorways caused by heavy trucks used to carry goods.
 - Paraguay is ranked N°118 in CO2 emissions, which represents only the 0.020% of the global total, or around 7.4 metric tons of CO2. Most of this corresponds to ground transportation vehicles, since Paraguay is a country with an infant industry.
 - Due to the country's commitment with the Paris Agreement, we must begin to establish guidelines in all modes of transportation to reduce the levels of carbon emissions. A big part of this responsibility would fall on the Paraguayan ship owners to incorporate green technology like ethanol into barges and other vessels' propulsions, and it would be up to the government to set up fiscal incentives for environmentally friendly river transports.

Main opportunities and bottlenecks imminent to setting up an infrastructure and network that are resilient and climate change inclusive

- The health crisis united nations, rich or poor, around combating COVID-19 and protecting the economy. However, the unequal response capacity will have devastating effects for health, wellbeing, and security for hundreds of millions of people.
- The pandemic and the resulting crisis will mean an unprecedented blow to the global goals and policies of development.
- The collective trauma offers an opportunity to reconsider some of the assumptions that we have operated with thus far. We must remember that this is not the world's first pandemic and it will not be its last, and other challenges raise over us such as climate change.



- Food security in countries that are net agricultural importers and those that receive humanitarian aid are at risk during the current pandemic, due to the heavy regulations of cross-border movement.
- It is not just the movement of import and export, but also the disruption of the supply chain. Generally, food directly relates to health.
- The collective unease that the pandemic presented offers the opportunity to apply those health and environmental policies that were previously delayed.





When all this is over, we will face a new world, but we will not be able to waste time to start building it. We must implement changes in the depth of our managing of water resources, especially in relation to river ways. In this case in particular, to the type of fuel used in ships and other vessels. The management model depends entirely on us.

THANK YOU!

Jorge Vergara, Director
Directorate of Strategic Projects (DIPE)
Ministry of Public Works and Communications (MOPC)
+595 981 247700
jvergara@mopc.gov.py