Advisory Panel on the Question of the Panama Canal

Issue 1: Economics Crisis



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Introduction

The current economic crisis surrounding the Panama Canal stems from a convergence of environmental, structural, and geopolitical challenges. The primary cause is a prolonged and intensifying drought, driven largely by climate change and amplified by recurring El Niño events. El Niño events are naturally occurring climate variations where the surface of waters in the Pacific Ocean become warmer causing changes in weather patterns along central America such as droughts in Panama. The Panama Canal depends on freshwater from lakes such as Gatún and Alhajuela to operate its transit system which has experienced record low water levels over the past two years. This water scarcity has limited the Canal's operational capacity, thus forcing restrictions on ship drafts, reducing the number of daily transits, and creating shipping delays. As a result, the Canal's efficiency and revenue have declined sharply, impacting both Panama's economy and global trade flows.

Beyond the immediate environmental triggers, the crisis also sparked deeper infrastructural and policy shortcomings. Despite a major expansion in 2016, the Panama Canal remains heavily reliant on rainfall, with limited backup water reserves and delayed investments in climate-resilient infrastructure. Plans for additional reservoirs have faced funding hurdles and public opposition. These limitations, combined with Panama's economic dependence on Canal tolls and its obligations to maintain global maritime neutrality, have created a complex crisis which calls for attention in the APQ committee. The situation now demands urgent international attention, coordinated investment, and sustainable long-term solutions to protect the sustainability of one the world's most vital trade arteries.

Definition of Key Terms

Panama Canal

The Panama Canal is an 82km long waterway in Panama which is essential for the transportation of goods between the Atlantic and Pacific Ocean as it is the only canal through the Americas.

El Niño

A naturally occurring climate phenomenon where waters in the Pacific Ocean become warmer, causing changes in weather patterns in Central America such as the observed droughts in Panama

Rio Indio Reservoir Project

A controversial infrastructure project aiming to provide a new water source for the Panama Canal. It intends to provide water security and consequently economic security but faces local opposition.

Draft restriction

A navigation limit set by the ACP that reduces the maximum depth (or "draft") of ships passing through the Canal. This is done when water levels are low, which limits the amount of cargo ships can carry and reduces Canal revenue.

Toll revenue

Income collected from ships that transit through the Canal, based on vessel size, cargo type, and route. Toll revenue accounts for a large share of Panama's GDP and government budget, making it economically significant.

Freshwater scarcity

A condition in which the available freshwater supply is insufficient to meet demand. In Panama, it affects both the operation of the Canal and access to water for over two million residents, creating a conflict between economic and social needs.

General Overview

The Panama Canal is the second canal with the highest revenue as a trade chokepoint and is currently facing one of the most severe operational crises in its history due to an unprecedented shortage of freshwater. In recent years, notably during 2023 and 2024, the region has suffered extreme drought conditions, significantly lowering the water levels of Gatún Lake, which supplies the vast amounts of freshwater needed to operate the Canal's lock system. As a result, the Panama Canal Authority (ACP) has been forced to commence limits on vessel size and reduce the number of ships transiting per day. These measures have sharply cut the canal's capacity, increasing wait times and shipping costs globally.

The crisis has also exposed the Canal's infrastructural vulnerability and Panama's economic dependence on its operation. Canal tolls generate approximately 6% of Panama's GDP, making the reduced efficiency a direct blow to national revenues. Furthermore, with over half of Panama's population depending on the same water sources used by the Canal, the government has faced mounting pressure to prioritize human consumption over commercial needs. Infrastructure proposals like the delayed Rio Indio reservoir have stalled due to funding issues and social resistance, particularly from communities facing potential displacement. Meanwhile, key global stakeholders, including the United States, China, and international shipping companies, have expressed concern over the Canal's long-term reliability. The situation underscores the need for immediate and sustainable solutions to ensure the Canal's functionality amid intensifying climate stress and rising geopolitical scrutiny.

Economic impact

The Canal handles roughly 5% of global maritime trade, serving as a vital route for goods between the Pacific and Atlantic Oceans. Due to reduced capacity and stricter draft limitations, shipping companies have been forced to reroute vessels through longer and more costly alternatives, such as around the Cape of Good Hope or the Suez Canal. This has increased shipping times by 10 to 14 days and freight costs by up to 30% in some sectors, particularly affecting container shipments, energy exports, and agricultural goods. This cascades into a global impact for both consumers and producers as prices rise and delayed goods pose threats to growing businesses. The unpredictability of access to the canal has also disrupted supply chains and weakened confidence in global logistic reliability.

Impact on companies

Shipping lines like Maersk, MSC, and COSCO have reported increased operational costs due to longer routes, fuel consumption, and congestion. Some carriers have introduced "Canal surcharge" fees to pass the burden onto customers, driving up the price of consumer goods globally. These rising costs are particularly painful for time-sensitive industries such as retail, electronics, and perishable goods, where delays translate directly into lost revenue or spoiled products. The Canal's unpredictability is also affecting investment decisions in port infrastructure, logistics hubs, and trade routes across the Americas.

Major Parties Involved

Panama Canal Authority (ACP):

A semi-autonomous agency, run on business principles. It manages daily operations, water-resources strategy, and financial planning. The ACP implemented slot reservations, auctions, and the freshwater surcharge to maximize revenue while conserving water. It is also planning long-term solutions (new dam, reservoir, dredging). Its mandate is to serve Panama's interests but also maintain reliability for shippers under treaty terms.

Panamanian Government:

The Panamanian Government owns and oversees the Panama Canal Authority (ACP). The government funds major infrastructure and enforces treaties. Domestic priority is maintaining fresh water for over 2 million residents while keeping the canal open and secure for all nations.

International Monetary Fund (IMF) and the World Bank:

Both the IMF and World Bank are closely monitoring the Canal crisis due to its impact on Panama's GDP and debt servicing capacity, as well as on global trade flows. The IMF has warned that prolonged reductions in toll revenue (around 5% of Panama's GDP) could weaken fiscal stability, especially if combined with growing domestic water infrastructure costs. The World Bank is exploring funding options for Panama's adaptation strategies, including water management, watershed restoration, and potential public-private partnerships for new reservoirs.

United States of America (USA):

The United States is one of the largest users of the Panama Canal, particularly for agricultural exports, energy shipments, and goods traveling between the Gulf Coast and Pacific. Reduced Canal capacity due to droughts has disrupted supply chains, raised shipping costs, and forced rerouting through longer paths such as around Cape Horn or through the Suez Canal. U.S. ports like Houston, New Orleans, and Los Angeles have reported indirect slowdowns. The U.S. government has expressed concern over the Canal's reliability, as it is also a strategic maritime route for national security. Washington maintains close diplomatic ties with Panama under the Torrijos–Carter Treaties and has offered technical and climate resilience support through the U.S. Agency for International Development (USAID).

People's Republic of China (China):

China is another top user of the Panama Canal, particularly for containerized trade with the U.S. East Coast. Chinese state-owned shipping companies, such as COSCO, have faced delays and higher tolls, affecting cost margins. Additionally, China has been investing heavily in infrastructure projects in Latin America under its Belt and Road Initiative (BRI), including port developments near Panama. Beijing views any instability in Canal operations as a threat to trade fluidity and is keen to expand influence through infrastructure partnerships or by backing alternatives like the Arctic shipping route. While diplomatic, China has quietly pressured Panama to ensure neutrality and predictable access.

Timeline of Key Events

Date	Description of event
June 26th 2016	Completion of the expansion of the canal
January 2020	ACP introduced a freshwater fee due to water scarcity, the first response to the economic crisis
2022	Record low rainfall in canal watershed

March 2023	Rainfall drops below 70 year average
August 2023	The ACP limited daily transits from 36 to 32 ships, citing low lake levels.
November 2023	The ACP reduced daily transits to 24 ships, with further cuts planned
April 2024	The Panamanian government called for international cooperation and funding to address the crisis, citing both environmental and economic threats
Mid 2024	Global shipping companies reroute through the Suez Canal or around Cape Horn due to Canal limits
Currently	The region continues to face below-average rainfall and the Canal is still operating under strict capacity limits

UN involvement, Relevant Resolutions, Treaties and Events

There are no previous resolutions regarding this matter. However, some UN organisations have expressed support towards resolving the crisis. These include the United Nations Environmental Protection (UNEP) which provides technical assistance to restoring ecosystems after the impacts of water scarcity in the area.

Previous Attempts to solve the Issue

The Panama Canal Authority (ACP) introduced short-term measures to conserve freshwater during drought periods. These included limiting daily transits, reducing ship draft depths, and introducing a freshwater surcharge in 2020 to fund water-saving initiatives. While these steps managed the crisis temporarily, they reduced the Canal's throughput and revenue, and did not address long-term water scarcity.

In 2016, the ACP completed a major expansion project to allow larger vessels through new locks, significantly increasing trade capacity. However, the expansion relied on the same freshwater sources without adding new ones, thereby increasing water demand without solving the core issue of limited water supply.

The ACP proposed the Rio Indio reservoir to supply additional water to the Canal system. While technically promising, the project has stalled due to environmental concerns, local community displacement risks due to the need of a controlled flood in the area and a lack of funding. It remains in the early planning stages despite being seen as a key long-term solution. In February 2025 following advocacy from the USA's new presidency, the Rio Indio reservoir project was accepted by the Panama Canal Board of Directors.

Efforts have been made to restore and protect the Canal watershed through reforestation programs and conservation initiatives. These aim to improve water retention and reduce runoff. However, progress has been slow, and the benefits will take years to significantly impact the water supply.

Panama has worked with organizations like the World Bank, IDB, and USAID for technical and financial support in climate resilience planning and infrastructure development. Although helpful in long-term planning, these partnerships have yet to yield large-scale, actionable water security solutions on the ground.

Possible Solutions

Solving the Panama Canal crisis starts with better infrastructure. Building the Rio Indio Reservoir would add a much-needed water source to support Canal operations during dry seasons. The project has been delayed due to high costs, environmental concerns, and local opposition, but it remains a key option. At the same time, the Canal can reduce water use by installing water-saving lock systems that recycle water. This would allow more ships to pass even during droughts without draining resources.

Environmental efforts are also important. Expanding reforestation and watershed protection can help the region hold more water during rainy seasons and slow the effects of drought. These projects can get support from programs like UNDP and REDD+. Panama could also work with neighboring countries to set up a regional water and climate data system, improving coordination during low rainfall periods and helping everyone manage water more efficiently.

Panama also needs to make its economy less dependent on the Canal. Investing in areas like logistics, renewable energy, and tourism could help reduce the impact of shipping disruptions. To pay

for these changes, Panama can apply for international climate funding or push for debt-for-climate swaps, using money that would go to debt repayments to instead fund sustainable projects. Together, these steps offer a way to keep the Canal running and support Panama's economy.

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