

# The Role of the Port of San Pedro in Promoting Port Sustainability: An Institutional Perspective

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## Abstract

Increasingly, ports are shifting towards environmental protection to acquire or maintain their competitive advantages. While they contribute to global economic development, port activities can have negative effects on coastal areas and marine biodiversity. The Port of San Pedro is undertaking several actions in favor of sustainable development, which has enabled it to obtain multiple certifications and ISO standards. This article presents the role it has played in acquiring these certifications. Institutional theory has been mobilized to demonstrate how the Port of San Pedro engages stakeholders in the port area towards port sustainability. Qualitative methodology was used to conduct interviews with the Director of Quality, Health, Safety, and Environment Services at this port. The results highlight the coercive policy deployed by the Port to engage port stakeholders in achieving sustainable development goals and make the Port of San Pedro a sustainable port.

## Keywords

Port, Institutional Theory, Sustainable Development, San Pedro, Côte D'Ivoire

## 1. Introduction

Sustainable development is “development that meets the needs of the present without compromising the ability of future generations to meet their own needs.” This quote is from Ms. Gro Harlem Brundtland, the Norwegian Prime Minister in 1987. In 1992, during the Earth Summit in Rio, organized under the auspices of the United Nations, the concept of sustainable development and its three pillars: economy, ecology, and social, were officially recognized. Thus, we empha-

ize the importance of economically efficient, socially equitable, and environmentally sustainable development. Ports play a strategic role in the process of globalization of the merchant economy as they significantly contribute to global, national, and regional economies (Abbes & Guillaume, 2008). However, in light of the principles of sustainable development, their activities have negative consequences on the environment and the surrounding communities (Liu, Kong, Li, & Wu, 2021). To address this issue, many global ports are undertaking environmental protection initiatives (Ogara, Morishita, Davies, Mbui, Gamoyo, Njoroge et al., 2023) because they have a crucial role to play in promoting sustainability (Bjerkan & Seter, 2019).

The adoption of sustainable practices in port cities is essential to maintain competitiveness in the international maritime transport and inland import-export trade sectors. Therefore, it is imperative to promote sustainable development within port cities. The Port of San Pedro is an important port in the West African sub-region. However, it has not been sufficiently studied in terms of sustainable practices.

Ogou & Bidi (2019) demonstrated the negative consequences of port activities on the environment and human health. The research conducted by Kadio and Ani (2023) highlighted the corrective actions taken by the Port to address the environmental degradation caused by port area activities. However, the literature on the Port of San Pedro regarding sustainable management is insufficient, particularly regarding its role in implementing sustainable practices. In this context, we pose the following question: What is the role of the Port of San Pedro in promoting port sustainability?

To address this question, we have employed institutional theory as an appropriate theoretical framework to analyze how the port engages port stakeholders in gaining legitimacy in sustainable development. Institutional theory is recognized as highly relevant for management research and has begun to be applied to sustainability in the port domain (Cho & Ha, 2009; Acciaro, 2013; Geerts, Dooms, & Stas 2021; Tsai & Lu, 2022). The objective of this research is to examine how the Port of San Pedro engages a range of port stakeholders towards achieving sustainable development goals.

Continuing with the research, Section 2 provides the literature review. The research methodology is presented in Section 3. Section 4 presents the results. Section 5 presents the discussion and conclusion is presented in Section 6.

## 2. Literature Review

### 2.1. Ports and Environmental Sustainability

Ports hold a central position in the maritime transport domain, serving as natural exchange points where goods can be transferred from one mode of transportation to another (Carbone & De Martino, 2003). According to the United Nations Conference on Trade and Development (UNCTAD) (2022), over 80% of global trade volume is transported by ships. The port plays a crucial economic

role as a showcase for a country on the global commercial stage. Its competitiveness compared to other ports in the same geographic area can attract investors and stimulate imports to the country, thus making it more attractive. The American Association of Port Authorities (AAPA) defines port sustainability as the implementation of strategies and business activities aimed at meeting the current and future needs of port stakeholders while protecting and supporting human and natural resources. The scale of port activities as nodes in global supply chains generates environmental and social externalities in relation to economic growth (Dinwoodie, Truck, Knowles, Benhin, & Sansom, 2012).

According to the Third IMO GHG Study, ports have a significant environmental impact due to their emissions of 796 million tons of CO<sub>2</sub> in 2015. Each year, international maritime transport burns approximately 300 million tons of fuel, accounting for about 3% of the total CO<sub>2</sub> emissions generated by human activities (Bergqvist & Monios, 2019). Ports have always been centers of industrial activities. As essential gateways in national, regional, and global economies, most ports continue to allocate land for industry and production. Environmental conditions can be integrated into concession agreements to influence industrial activities (Bjerkan & Seter, 2019).

The environmental issue is a major concern for global ports, to the extent that reports are produced to disclose activities related to sustainable development goals (Wang, Yuen, Wong, & Li, 2020; Alamouh, Ballini, & Ölçer, 2021; Cunha, Pereira, De Santana Porte, & Campos, 2023). Environmental standards, both mandatory and voluntary, have multiplied to address the need to protect coastal areas and reduce the environmental impact of port activities. Port authorities are becoming aware of the importance of environmental protection and implementing measures to meet these standards and the expectations of stakeholders, including residents and environmental protection associations (Rainaud, 2021).

## **2.2. The Institutional Role of Ports**

According to DiMaggio & Powell (1983), bureaucracy plays a role in homogenizing businesses and states. Bureaucratization is an important means of making organizations and states more uniform. Furthermore, they argue that institutional factors play a more dominant role and influence organizations toward a tendency for similarity. DiMaggio & Powell (1983) maintain that the concept of isomorphism is most appropriate for describing the process of homogenization. It helps to understand how a unit within a population tends to resemble other units facing similar environmental conditions. This process involves organizational characteristics evolving to become compatible with the dominant traits of the environment over time. In the context of sustainable development and corporate social responsibility (CSR), institutional theory aids in understanding CSR as a mode of governance for CSR effectiveness within the broader institutional domain of economic governance (Brammer, Jackson, & Matten, 2012). Several studies grounded in institutional theory have shown the factors that influence “sustainable practices” within firms (Giunipero, Hooker, & Denslow,

2012; Zhu, Sarkis, & Lai, 2013; Adebajo, Ojadi, Laosirihongthong, & Tickle, 2013).

For instance, the work of Zhu and Sarkis (2007) demonstrates that Chinese manufacturers face significant environmental pressure to implement Green Supply Chain Management practices. Institutional theory argues that companies adopt initiatives to acquire legitimacy or acceptance within society (Zhu & Sarkis, 2007). Institutional theory and neo-institutionalism assert that the adoption of organizational practices and alignment with the environment are institutional processes subject to the influence of three pressures or forces: coercion, mimicry, and normative (DiMaggio & Powell, 1983). In terms of normative pressures, companies voluntarily adopt “green” practices due to their sensitivity to environmental issues, influenced by stakeholders. Coercive pressures, on the other hand, refer to regulatory, legal, and even market constraints that compel companies to consider environmental concerns in their operations. Compliance through coercive pressures occurs through the influence exerted by those who hold power. Government agencies are examples of powerful groups that can influence an organization’s actions. Lastly, mimicry occurs when companies imitate the successful actions of their competitors. They follow or mimic their competitors due to their success (Zhu & Sarkis, 2007).

In light of institutional theory, ports face coercive pressures that compel them to implement international, national, and local rules and agreements (Marcadon, 1999). They are subject to pressures to adopt sustainable practices on a global scale (Alamouh, Ballini, & Ölçer, 2021). Obtaining certain accreditations and ISO certifications is contingent upon prevailing environmental standards and both mandatory and voluntary legislations (Alamouh, Ballini, & Ölçer, 2021; Brunila, Hyrkkö, & Tommi 2023). Some stakeholders, such as residents and associations, are not hesitant to take legal action to seek the reversal of decisions that go against environmental protection (Rainaud, 2021). As a result, numerous ports worldwide are undertaking environmental protection initiatives (Acciaro, Chiara, & Cusano 2014; Bergqvist & Monios, 2019; Liu, Kong, Li, & Wu, 2021; Ogara, Morishita, Davies, Mbui, Gamoyo, Njoroge et al., 2023) because they have a crucial role to play in promoting sustainability (Bjerkan & Seter, 2019). In this regard, ports tend to replicate environmental strategies from one region to another and learn from each other to strengthen the importance of corporate responsibility in general and, specifically, the environmental performance of ports (Acciaro, 2015). This is legitimate. Furthermore, the Pohang-Yeongil port adopts a strategy in which government support can play an important role in attracting foreign capital from multinational corporations through incentives compared to competing ports (Cho & Ha, 2009). Geerts, Doms & Stas (2021), on the other hand, employed institutional theory to demonstrate that various institutional pressures influence the decision-making of port authorities regarding the adoption of sustainable development reports. The port authority, in turn, can compel port stakeholders to implement sustainable practices such as circular economy. This is the case with the La Rochelle Atlantic Port, which has fully

played its role in implementing and managing a circular economy project through various forms of pressure to address the challenges faced by port stakeholders (Kadio & Fernandes, 2023).

Maritime ports, whether dedicated to fishing, trade, or leisure, are the subject of in-depth considerations to strike a balance between multiple social, security, political, economic, and environmental challenges. In this regard, sustainable development issues are a priority for these ports, which spare no effort to enhance their competence and legitimacy.

### **3. Methodology**

#### **3.1. Study Context: The Port of San Pedro**

The Port of San Pedro, located on the southwest coast of Côte d'Ivoire, is the country's second-largest port after Abidjan. As a deep-water port, it accommodates large vessels and has container handling quays, as well as terminals for petroleum, mining, and agricultural products, which are the main exports of the region. The port includes a commercial and fishing port with a quay of approximately 800 meters long and a depth ranging from 9 to 12 meters, allowing for the simultaneous berthing of 2 to 3 ships. It also has storage areas for export products such as cocoa, coffee, cashew nuts, palm oil, cashews, cotton, etc. The Port of San Pedro plays a key role in the economic activity of the region and contributes to the country's development. The Port of San Pedro is the second most efficient container port in the West African Economic and Monetary Union zone. Furthermore, it is the second largest public commercial enterprise in terms of its economic and financial performance. By the end of 2022, it had recorded 6,241,503 tons.

#### **3.2. Data Collection and Analysis**

Primary data was collected through qualitative methods using an interview guide. A semi-structured interview lasting one hour was conducted face-to-face with the head of the Quality, Health, Safety, and Environment department at the Port of San Pedro. This department is responsible for implementing regulations regarding occupational health, safety, and environmental matters for all permit holders. Additionally, secondary data was collected through document research (press articles<sup>1</sup>, website<sup>2</sup>). The data was manually analyzed using the summary synthesis method, which is a straightforward method of interview analysis (Garvard-Perret & Helme-Guizon, 2018).

### **4. Results**

#### **4.1. The Port of San Pedro and Its Stakeholders**

The Port of San Pedro is a government administration representing the state. The stakeholders in the port area are referred to as "permit holders." Permit

<sup>1</sup><https://www.faapa.info/blog/lautorite-portuaire-et-les-etablissements-industriels-encourages-a-pour-suivre-les-efforts-de-respect-des-normes-environnementales-a-san-pedro/>

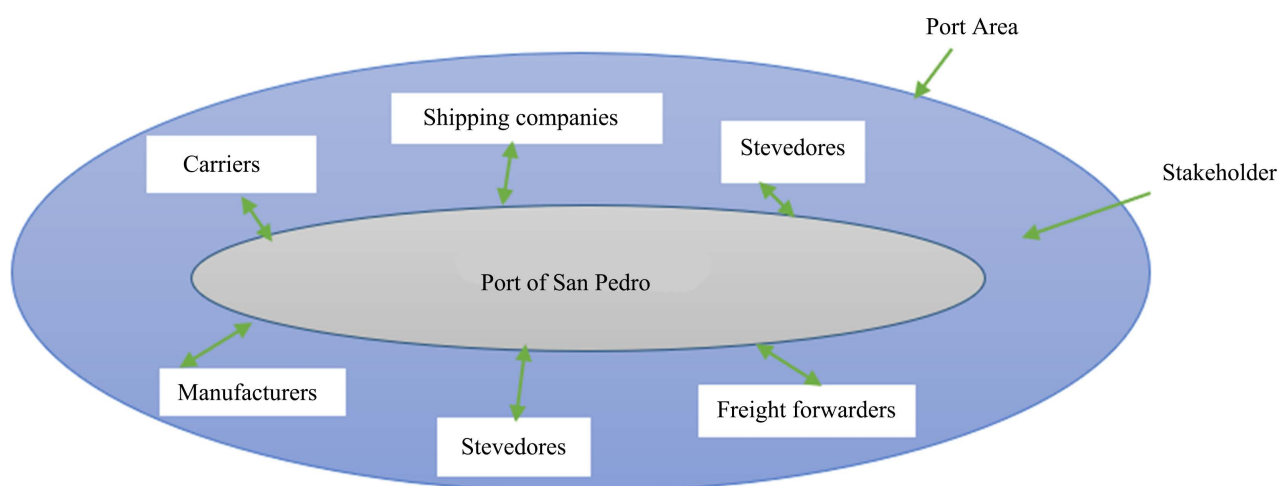
<sup>2</sup><https://www.gouv.ci/actualite-article.php?recordID=15297>

holders are economic operators who occupy the port area under the authorization of the Port of San Pedro, including shipping companies, stevedores, industrialists, terminal operators, transporters, processing industries, etc. The Port of San Pedro is responsible for all port functions, including operational activities, vessel services, maintenance, renewal, and expansion of port infrastructure in San Pedro. It also ensures the collection of customs revenue, taxes, and compliance with regulatory and normative requirements.

Decision-making authority lies within the port authority. This removes any ambiguity regarding its role as a port authority with regard to the permit holders. The port has full discretion to represent the state on all relevant issues. However, certain decisions are made through consultations within a framework called the “San Pedro Port Community.” The Director-General of the Port serves as the president of this community, and all top officials from various entities are members. This community functions as a committee for reflection and decision-making (Figure 1).

#### 4.2. The Port of San Pedro’s Commitment to Sustainable Practices

The Port of San Pedro faces international pressures and requirements that are more stringent than local ones. All projects undertaken in the port area of San Pedro are the result of external financing from institutions such as the World Bank and the International Finance Corporation (IFC), which impose stricter criteria than those of Côte d’Ivoire. As highlighted by the interviewee, “*We are now compelled to meet all these requirements in order to benefit from certain subsidies and assistance from external sources.*” The Port of San Pedro pays attention to environmental preservation. Indeed, any new economic operator wishing to establish themselves in the port area must sign a contract in which they commit, based on their activities, to sustainable environmental management. This is exemplified by two economic operators: one involved in natural rubber processing and the other in crushing and manufacturing concrete products.



**Figure 1.** The port and its stakeholders. Source: Generated by the author.

Both operators have submitted installation requests for their industrial activities in the port area. In the environmental and social management plan, the occupancy contracts establish requirements for the preparation of environmental and social impact assessments prior to the operators' installation. As emphasized by the interviewer: *"There are quite a few requirements to compel the operator to adhere to our environmental policy"; "Therefore, it is undeniable that their activity generates significant pollution. Crushing facilities, in particular, are sources of harmful emissions to the environment. We have validated their Environmental and Social Impact Study, during which they formulated commitments documented in a report. During our joint evaluation, we found that these commitments were insufficient, leading us to formulate additional observations, recorded with the relevant ministry. As a result, they are obliged to scrupulously adhere to these commitments"*.

Furthermore, a permit holder who fails to comply with environmental requirements and regulations after installation may be compelled to leave the port area. Indeed, the Port of San Pedro regularly conducts audits, checks, and inspections to track permit holders who do not adhere to established environmental standards. As emphasized by the interviewer: *"If a permit holder no longer complies with their obligations, they are issued a closure notice or a formal warning"*.

The Port of San Pedro benefits from the assistance of specialized centers in pollution control to exert pressure on port permit holders. According to the interviewer, *"And when we conduct inspections and audits of permit holders' facilities, we recommend that they assist us CIAPOL<sup>3</sup> and ANDE<sup>4</sup> in applying pressure"*.

The Port of San Pedro constantly makes decisions to reprimand certain permit holders following audits, such as in the cases of the oil and cement industries. As emphasized by the interviewer: *"Thus, it is now required for permit holders, particularly in the oil industry, to use conveyor systems equipped with covers for the transportation of dusty substances in order to reduce dust emissions. At the hopper level, a dust-free hopper with a dust recovery system is used, where the collected dust is reintegrated into the circuit rather than being allowed to disperse into the air. As a result, all new players establishing themselves in the cement industry or any other activity posing a pollution risk are subject to strict requirements regarding the installation of equipment, and inspections will be conducted to verify their compliance"*. Regardless of the enormous amounts that new applicants plan to invest in the Port of San Pedro, their installation is only authorized subject to compliance with the pre-established environmental requirements.

To achieve sustainable development goals, the Port of San Pedro requires an Environmental Impact and Assessment Study (EIAS) in occupancy contracts, conducts environmental audits, certification audits, internal environmental au-

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<sup>3</sup>Anti-pollution center.

<sup>4</sup>National agency for environmental development.

mits, and Environmental Health and Safety inspections. Additionally, there is a Port Environmental Health and Safety (EHS) Committee that brings together all EHS personnel in the area to address issues of safety, security, and the environment in collaboration with the Port of San Pedro.

## 5. Discussion

This study conducted at the Port of San Pedro aims to examine the role of the port in the implementation of sustainable development. The findings of this research indicate that:

- ❖ The Port of San Pedro faces external pressures from funders for environmental protection.
- ❖ The Port of San Pedro embodies the state authority responsible for ensuring strict compliance with environmental laws and regulations in the port area.
- ❖ The Port of San Pedro assumes the role of an authoritative institution exercising its power over port stakeholders to promote sustainable practices.
- ❖ The Port of San Pedro applies coercive pressure on the port community, including the imposition of sanctions in the form of formal warnings after their evaluation.

### 5.1. Theoretical Contributions

There is little research on the specific actions related to sustainability implemented by the Port of San Pedro. This research provides significant theoretical implications to the literature on the institutional role that a port located in an emerging country can play in achieving sustainable development goals, particularly in the case of the Port of San Pedro. We observe that the Port of San Pedro, like all other global ports, faces coercive pressures to implement international agreements related to environmental protection (Marcadon, 1999).

Furthermore, the implementation of sustainable actions is contingent upon obtaining ISO certifications and accreditations, which in turn leads the Port of San Pedro to exert coercive pressure on permit holders. The allocation of land to economic and industrial operators is conditioned on their commitment to strict compliance with national and international environmental standards. The Port of San Pedro incorporates environmental conditions into its land allocation contracts, demanding full commitment to the required actions from applicants. The objective is to influence the activities of established operators, as highlighted by Bjerkan and Seter (2019). According to Zhu and Sarkis (2007), the existence of normative and coercive pressures encourages organizations to improve their environmental performance. Our findings align with the work of Zhu and Sarkis (2007), but within a different framework, namely the port context. Indeed, the Port employs coercive pressures to engage its stakeholders in sustainability efforts to enhance its image and remain competitive. The mobilized institutional theory demonstrates that the Port of San Pedro adopts a coercive policy that has enabled it to obtain several ISO 14001, 9001, and 45001 certifications (Kadio & Ani, 2023).



## 5.2. Managerial Contributions

This study yields several managerial implications for port operators in West Africa. Our research examines the crucial role of the Port of San Pedro in enforcing environmental standards. Our findings identify that the coercive policy of the port has allowed it to enhance its image and reputation. From a managerial perspective, our research showcases the significant commitment and sensitivity of the Port of San Pedro to environmental protection. To achieve this, several measures have been taken to implement sustainable practices. The binding action plans for sustainable practices provide tangible evidence of efforts undertaken to minimize negative impacts on the environment, which can enhance trust and stakeholder engagement with the port. The Port of San Pedro applies pressure on stakeholders through various action plans that they must adhere to. This pressure has successfully mobilized port stakeholders to commit to sustainable practices. These constraint-based action plans can serve as an example for ports in the sub-region to ensure a sustainable port image. Our findings can contribute to reinforcing sustainability in ports, particularly in West African ports, and provide insights on how to comply with government regulations and international conventions.

## 6. Conclusion

This article examines, from an institutional perspective, how the Port of San Pedro engages its stakeholders in environmental protection. The Port of San Pedro is a state institution that is constrained by its political, economic, and legal environment, which it adheres to in order to ensure its legitimacy and sustainability. The institutional approach we have deployed has allowed us to demonstrate how the Port has successfully garnered adherence and compliance from port permit holders to environmental standards without hesitation. The coercive measures are stringent to the extent that an operator risks closure of their establishment for non-compliance with environmental standards.

This study has limitations in terms of generalizing the results. We focused on a single case, that of the Port of San Pedro, without considering the perspectives of the permit-holding stakeholders in the port area. Additionally, access to information was challenging, which compelled us to rely on a single department for data. Therefore, it would be valuable to include the perspectives of stakeholders, which would pave the way for future research.

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## Conflicts of Interest

The author declares no conflicts of interest regarding the publication of this paper.

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