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Extracting and trafficking Morocco's coastal sand

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Summary

The lack of sanction for illegally mined sand in Morocco underlines a political and socio-economic system that facilitates endemic corruption and the degradation of the environment that puts vulnerable coastal ecosystems at risk. It is difficult to pinpoint those responsible for illegal sand extraction. Sand extraction and trafficking is enabled by a complex political system that relies on feudal allegiance and appointed officials to ensure the profitable flow of sand. Without adequate responses to this multifaceted challenge, Morocco's beaches are at risk of being permanently disfigured, negatively impacting local livelihoods and national tourism industry.

Key findings

- Sand trafficking in Morocco is understudied, especially as a transnational criminal enterprise.
- The traditional Makhzen system appears to be a key facilitator and benefactor in the sand trafficking enterprise in Morocco.
- Illegal sand extraction meets the demands of the construction industry while putting vulnerable coastal ecosystems at risk.
- Grey areas and loopholes in legislation facilitate sand trafficking.
- The Moroccan government relies on its beaches to attract tourists, so eroding their natural beauty is likely to have a negative knock-on effect on the tourism sector.
- Alternative materials to sand and construction techniques could form part of the solution.

A world built on sand

Sand is everywhere in our lives, including in the concrete to construct buildings and in the asphalt to build roads. Sand is also used to produce computers and glass bottles. Sand and aggregates are synonymous with the building blocks of the modern world. After water, sand is the most used natural resource consumed worldwide. It is estimated that between 40 and 50 billion tonnes of sand are extracted every year, driven primarily by construction-sector demand. That is enough to build a wall 27 metres high and 27 metres wide around the world at the equator. Population growth, urbanisation and industrialisation have nurtured the tremendous demand for sand.

Between 40 and 50 billion tonnes of sand are extracted every year, driven primarily by construction-sector demand

The major demand comes from developing countries, where sand consumption has tripled since 2000.⁵ China alone is believed to have consumed 'more sand in the second decade of this century than the United States consumed in the entire twentieth century' while 'India's consumption of sand has more than tripled in 20 years'.⁶

For the United Nations Environment Programme (UNEP), 'sand and gravel are the recognised foundational material of our economies. They are mined the world over, with aggregates accounting for the largest volume of solid material extracted globally'. Yet, despite its immense quantity, sand can also be invisible. As sand expert Kiran Pereira, author of *Sand Stories*, ⁸ puts it, '[sand] is like air. You don't think much about it but you can't live without it'. ⁹

This rapacious consumption of sand to support rapid urbanisation and large-scale infrastructure has spawned a profitable illicit trade with dramatic environmental consequences. In Indonesia, for instance, it is estimated that 24 islands disappeared between 2005 and 2014 because of sand extraction, while another 80 are under threat. 10 Reports from India 11 and Kenya 12 show that violence and even death are

consequences of this illicit trade. In Morocco, coastal sand extraction has led to the complete or near disappearance of several beaches, threatening the littoral ecology and jeopardising fisher livelihoods.¹³

Introduction

Morocco is known worldwide for its sandy beaches. Every year, millions of tourists spend their annual vacation in the kingdom and, for most of them, beaches and sand mean pleasure and leisure. Most tourists are unaware that the beaches they lie on may someday disappear because of illegal sand extraction. Today, all along the Moroccan coastline running between the Mediterranean and the Atlantic (including Western Sahara), numerous beaches are being stripped of sand.

Since hosting the Conference of the Parties (COP22) in 2016, the Moroccan authorities have regularly put forward the protection of the ecosystem as a priority. After years of inaction, legislation has been initiated to regulate the industry. Lawmakers have, in theory, engaged actively to tackle this issue. Importantly, Law N°2-17-369 regulating sand extraction entered into force in November 2017. In September 2020, the Moroccan Parliament also created a commission to explore the use of marine sand.

In May 2021, Morocco's carefully crafted reputation was shaken by editorials following the migrant crisis between Rabat and Madrid.¹⁵ Some argued that Morocco was claiming a reputation that did not reflect the reality; one stating that 'it was time for Western chancelleries to review their naivety vis-à-vis Morocco'.¹⁶ This contradiction extends to illegal sand extraction and trafficking.

Illegal sand extraction in Morocco, along with importing and exporting non-Moroccan sand, involves a wide range of actors, enterprises and facilitators. A key finding from this research is the extent to which this complex political and economic system fosters corruption and criminality, and benefits along the value chain. Its reach and deep roots in Moroccan society pose a significant obstacle to responding to the illicit trafficking of sand or countering the many harms that the research also uncovered. It is worth noting that desert sand – and there is plenty in Morocco – cannot be used for construction because the round shape of the grains renders it non-adherent for concrete industrial purposes.¹⁷

Methodology

This study combines an extensive literature review, primary and secondary data sources, and fieldwork. The literature review explores theoretical explanations to contextualise the analyses within current policy and academic discourse. The secondary sources of information consist of scholarly publications, legislation, official statements, and United Nations reports on sand extraction in Morocco, as well as other relevant policy documents.

The fieldwork employed a qualitative method for gathering and analysing data through interviews. The data-gathering method also included key informant interviews with experts and non-governmental organisations in Morocco and France.

Researching sand trafficking in Morocco is difficult and risky. Besides the potential threats from traffickers, pressure and harassment from the authorities is commonplace. In the course of this research several respondents were either reluctant to provide information, insisted on anonymity, or refused to be interviewed. Several sources confirmed that in Morocco, violence and intimidation in the sand sector are common.

These difficult conditions have constrained the research, and limited the sources from whom the information was obtained. Thus, delving into law enforcement perspectives and government official responses proved too risky in the current context for both the researcher and the potential respondents. Thus the paper relied on courageous activists and journalists who, despite the risks, were willing to share insights and information. For this reason, aspects of these limitations and how they shape the research are also mentioned in the body of the text.

International networks, local actors

Morocco supplies both legal and illegal sand for internal use and for export. It also serves as a transit route for sand coming from other supplier states, particularly Western Sahara, which it then exports to destination states.

Illegally extracted Moroccan sand involves both local actors and foreign companies to mine and move sand illegally across borders. Reports indicate that Moroccan sand is being used by construction companies to build

Key actors in sand trafficking cartels



Source: Uzi Media for ISS

hotels and restaurants in southern Spain.¹⁸ Likewise, Iberian companies operating in the Spanish enclave of Melilla in the north-west of Morocco use sand illegally extracted from the nearby Moroccan province of Nador.¹⁹

Furthermore, trucks used in transporting sand to construction sites allegedly belong to Moroccan MPs and politicians.²⁰ This illegally mined sand is reportedly sold on to Spanish companies such as Serom²¹, a construction company.²² It is believed that this sand is used to build military and infrastructure projects such as the extension of Beni Ansar's harbour for cruising boats.²³ It is alleged that neither the quantity nor the content of the cargo is adequately declared, with the consent of the Spanish firm.²⁴

Physical checks of cargo or verification of declarations is mostly non-existent

As detailed in sections below, the regulations that are intended to govern the excavation of sand are erratically and poorly applied,²⁵ as are the regulations governing the import and export of sand via Morocco from Western Sahara. Physical checks of cargo or verification of declarations is mostly non-existent.²⁶

Sand trafficking in Morocco occurs in a complex context that can only be partially understood from conventional organised crime value chains. A unique feature is the traditional system of governing in Morocco, which operates in tandem with the state or elected system. This is detailed in the section on the Makhzen and expanded with further findings from the fieldwork that suggest a more 'conventional' collusion between criminals and officials.

While this research focuses on the illegal sand trade in Morocco, it is important to note that Morocco also serves as a transit state for sand is extracted from the occupied Western Sahara territory. This sand is transported from the port of Laayoune to the Canary Islands, Cape Verde, Azores, Madeira and Portugal. In the past 20 years, revamping beaches and large-scale construction in these locations has increased the demand for sand and has resulted in millions of tonnes of sand being imported.

According to Associaciones de Amistad y Solidaridad con el Pueblo Saharaui de Canarias (AASPSC) – a Spanish non-governmental organisation that monitors the illicit extraction of natural resources from Western Sahara – cargo vessels transporting sand from Western Sahara were spotted in Madeira and Faro, Portugal, in July 2020.²⁷ Between October 2019 and December 2020, cargo vessels transporting sand from Western Sahara also cruised to Cape Verde.²⁸

Illegal sand extraction has numerous consequences for Western Sahara, its people and the environment

It is estimated that at least 750 000 tonnes were illegally extracted from Western Sahara and transported to the Canary Islands between 2012 and 2017.²⁹ This illegal sand extraction has numerous consequences for Western Sahara, its people and the environment.

Yet, despite rulings from the European Council to prevent this, Spanish companies based in the Canary Islands have been illegally importing sand extracted from Western Sahara for years, and ignoring the international law related to its natural resources.³⁰

Sand trafficking from Western Sahara and onward to destination states is facilitated by Moroccan, as well as

local Spanish and Portuguese authorities.³¹ Spanish port authorities do not check the custom procedures of sand importation, they leave it to the Moroccan authorities in Laayoune.³² It is primarily the Moroccan authorities and companies who benefit financially from this trade.

The port of Laayoune is the main sand trading link to the ports of Las Palmas, Faro, Tenerife and Praia. According to data provided by the Department of Foreign Trade of the Chamber of Commerce of Santa Cruz de Tenerife, 43 000 tonnes of sand were imported into Tenerife alone in 2016.³³ It is likely that this quantity of imported sand represents only a small fraction of illegally extracted sand from Western Sahara.

Lack of traceability further facilitates this illegal trade. As it stands, the imported aggregates carry a European Conformity (CE) marking, indicating that the sand is of European origin. The seal that appears on the sand packages of the Tenerife company Áridos del Valle classifies the product as Sand of the Sahara (Milan) only. The company emphasises that it does not import the product itself, but buys it locally and then bags it.

Illicit cross border trading requires corrupt people and loopholes in the systems to allow the product to pass through Morocco and on to destinations. The same is true for the domestic market in Morocco, and with sand the demand is ever-increasing.

Domestic sand extraction in Morocco

Morocco's increased demand for new housing and the growing tourism sector mean that the construction sector is booming. Today, 60% of the Moroccan population lives in coastal areas, with 50% of tourism concentrated there too.³⁴

Estate developments require an estimated 30 million tonnes of sand per year. As a result, many Moroccan coastal areas along the Atlantic and Mediterranean seaboard are badly affected by sand mining. It is also estimated that up to 50% of the sand being used is illegally mined.

Sand is legally and illegally extracted by both registered companies and traffickers. According to UNEP, half of the sand sold on the Moroccan national market comes from illegal coastal sand extraction.³⁵ There are 1 680 legal sand quarries in Morocco, and it is estimated that an equivalent number remain undeclared.³⁶ Moreover, since 'precise data on sand extraction are hard to

come by, the lack of data compounds the challenge of managing the resource sustainably.³⁷

This complex intersection of legal and illegal actors, mining and transportation, licensing and regulation, corruption and censorship make developing a comprehensive overview of sand trafficking in Morocco, as well as from other supplier territories to demand states challenging.

The illegal sand extraction of Moroccan beaches is controlled by a mafia syndicate,³⁸ second in size only to Morocco's drug trade.³⁹ There is also evidence indicating that these syndicates are closely related. Drug traffickers are believed to be involved in sand trafficking, using the sand quarries for laundering money.⁴⁰ According to activist, Hamid Sayad,⁴¹ and academic, Mustapha Labraimi, those involved in sand trafficking are also involved in other criminal activities such as drugs or illegal migration.⁴² Local oceanographer and academic Mustapha Labraimi confirms this.⁴³

In addition, there are a range of other actors that are also trafficking in sand from both legal and 'undesignated' quarries. Sand traffickers vary from small groups of individuals struggling to make a living for €5 per day to large and well-organised businesses with profits to match. Large companies extract tonnes of sand daily. Smaller syndicates such as *mafia de bas de game*, or low-level mafias, use donkeys or tuk-tuks to transport sand extract, and sell it at much smaller scales.⁴⁴

Sand traffickers vary from small groups of individuals to large and well-organised businesses

The environmental harms are the most evident. According to Pilkey et.al., the result (of sand trafficking) is a series of lunar-like landscapes along Morocco's coastline, which increases the vulnerability of coastal infrastructure to storms and rising sea levels. 45 Several key interviewees indicated that while combating illegal sand extraction in Morocco should remain a priority for the authorities, requiring a concerted effort from government and industry, the traditional Makhzen system of delegated authority remains a major impediment for any tangible progress. With these realities shaping, the focus of the research is primarily

on the systems that support sand trafficking; the harms that are compounded by corruption; the grey areas and loopholes the relevant judicial texts.

Illegal sand mining - actors and routes

This political system facilitates the low-risk, high-profit industry of trafficking, where criminals operate with impunity and seem to enjoy the protection of the state.

The Makhzen mafiocratic system

The trafficking network finds a compelling ally in the Makhzen, the traditional socio-political economic system that underpins the state in Morocco. The criminal enterprise and its syndicated operations are intertwined with this system. If corruption existed under King Hassan II, it has been institutionalised under the reign of Mohamed VI.⁴⁶

The Makhzen, coming from the verb 'to hide' in Arabic, is a term originally used to indicate where the treasure of the sultan was kept. Today, it is still used in Morocco to designate the Moroccan state – both traditional or elected and modern.⁴⁷

When Morocco became a French protectorate in 1912, the French authorities decided to keep the Makhzen system and consolidate it, allowing the sultan's authority across the entire country. After Morocco's independence in 1956, King Mohamed V reinforced this system through a centralised organisation mainly controlled by the Ministry of the Interior.⁴⁸

Over the years, this feudal system of centralised control has enabled the Moroccan state to consolidate its institutional framework at the territorial level, using its army and bureaucracy to convert allegiance into obeyance. ⁴⁹ Interestingly, it has been argued that the Makhzen system would not have survived without the support and acceptance of the population, accomplishing a whole set of social and political tasks necessary for the survival of the society. ⁵⁰

Morocco is divided into regions, provinces and préfectures (see Figure 2).⁵¹ There are 12 regions, with 75 second-level administrative préfectures (13 préfectures, mostly urban, and 62 provinces, mainly rural). These préfectures and provinces are then further divided into 1 503 communes.⁵² In this schema, the Moroccan king designates the 12 heads

Chart 1: Main sand trafficking and dredging locations in Morocco



Source: Abdelkader Abderrahmane

(walis) for each region, and in discussion with the walis, the 75 governors at the head of provinces and préfectures. The governor is the representative of the king and the delegate of the government, and as such his authority is considerable, more than a simple administrative competency. With this almost unlimited power, the governor can rely on a network of agents he designates or suggests their name to the interior minister.⁵³

In addition, the jurisdictional immunity the king enjoys is extended to his representatives.⁵⁴ This means that almost no one would contest the authority or the decision of a governor. Power continues to devolve to the next levels, down to the smallest units, each with their appointed 'heads'. For instance, any administrative authorisation (e.g. passport, construction permit) is under their control.⁵⁵ Bureaucrats or ordinary citizens have their own jobs, and are employed as agents of the state within the Makzhen.⁵⁶

In this complex system, the administrative leadership fuses modern and traditional means. Depending on intention, the Makhzen either modernises traditional techniques or reactivates ancient institutions for social control. Furthermore, the Makhzen is the extension of a secular authority which invokes religion to justify its eminence.⁵⁷ Today, the Makhzen is an institutionalised, networked system of organised patronage sustained by groups it controls and manipulates.⁵⁸ The Makhzen operates by using formal and informal networks of control that enable clients to make representations of their interests or for an allocation of resources.

Legal loopholes enable companies to extract sand and build along the coast, circumventing or ignoring the laws

This pyramidal mafiocratic⁵⁹ system enables the sand trafficking chain in Morocco. Each actor exerts control and accrues benefits based on orders from the authority level just above them, and centralised at the apex level. The benefits are most commonly financial, as well as increased control through promotion to higher positions by the governor.⁶⁰ To illustrate this, a

Actors enabling sand trafficking syndicates in Morocco



Source: Uzi Media for ISS

head of a Caïd based in Moulay Bouselham, north of Kenitra, was sanctioned following his refusal to cover up the illegal sand business in his area, He was sent to work in the remote southern town of Assa-Zag, in the south-east.⁶¹

From the *walis* to the governors at the head of each province and préfecture, down to the *caïds*, all are conveyers of the authority which links the centre of the Moroccan politico-administrative system to its periphery.⁶² A governor appointed in a province may also face problems with local notables with power and influence across their religious, tribal, political, economic and military networks. Their power and influence can be harmful to the governor in cases of disagreement and the governor must therefore skilfully and diplomatically manage such situations.⁶³

Box 1: A political deal with the army

An illegal sand quarry is operating in the region of Mnasra, north of Kenitra. Its owner is a retired army general. The involvement of army officers in illegal businesses can be explained by the deal struck between the former king, Hassan II, and the Moroccan army. Following two assassination attempts and coups d'état against him in 1971 and 1972, Hassan II found a way to keep the army out of politics. He clearly stated to his officers that they would be free to conduct their own business as long as they stayed away from politics. ⁶⁴ Since then, countless army officers have enriched themselves through involvement in all sorts of trafficking, such as fuel – and they are not involved in politics.

This pyramidal politico-economic system where each level is dependent on the centralised power at the apex is ideally positioned to facilitate all kinds of trafficking. Its controls extend to limiting critique of the system, and there is little tolerance of commentary on the harms of the system or the activities that take place under its protection.

Mining sand on the beaches and in quarries

First-hand experience while in Morocco⁶⁵ provided evidence of the illegal sand mining. In the photo (Figure 3) taken on 14 July 2021, on attempting to access a site

of illegal sand extraction near Sidi Boughaba (Mehdya-Kenitra), an officer/state agent 'confirmed' that the road was closed (see Figure 3). A gendarme's official role is to ensure the security of people on the coast. However, his actions indicated that his role extended to preventing interference in the sand mining taking place in the area and possibly protecting sand traffickers by keeping people away.⁶⁶

After taking a 30 km detour there were numerous large pits over an area of a hundred square metres resulting from illegal sand extraction. While there were no lorries or backhoes present,⁶⁷ their wheel traces in the sand were visible in the sand.

Ways of mining

Traffickers carry out illegal mining in different ways. The main and most efficient way is to use backhoes, which can extract tonnes of sand every day. Small groups of people using shovels are also part of the trafficking network. They usually work in places that are difficult for trucks to reach, such as hilly areas. The extracted sand is put into small bags and loaded onto donkeys, which transport it to roads where it is then transferred to trucks.

Illegality at licensed quarries

Illegal sand extraction is also carried out by some licensed companies, for example by mining beyond the delimited extraction zone. 68 Since the Moroccan authorities do not conduct any physical checks but

A state agent on patrol



Source: Abdelkader Abderrahmane

rely solely on the companies' declarations, this gives leeway to unscrupulous entrepreneurs to disregard the law. While the authorities impose a limited quantity on the amount of sand to be extracted, unscrupulous entrepreneurs do not fully declare the total amount they extract, which is often up to 10 times the declared quantity.⁶⁹

Dredging

Dredging is the removal of sediment and debris from the bottom of lakes, rivers or sea harbours. Sedimentation - the natural process of sand and silt washing downstream - gradually fills channels and harbours. Dredging maintains or even increases the depth of navigation channels. This is necessary to ensure the safe passage of boats and ships, which require a depth of water in order to float and not get stuck.⁷⁰

Dredging activities that yield profitable sand, and despite the numerous physical, biological and chemical impacts of this practice seems to be an increasingly attractive source of sand in Morocco. There is no judicial framework to control dredging.⁷¹ Although it requires very expensive equipment, the sand extracted is free and profits are thus immense. In Morocco, Drapor is a quasi-exclusive operator with the monopoly on dredging largely due to the company's mastering dredging technology and services provided in this field.⁷²

Generally, Drapor is contracted to the Moroccan state and public enterprises such as the Ministry of Equipment and Transport, the Ports National Agency and the Office chérifien des Phosphates (OCP).⁷³ In theory, Law 27-13 related to the exploitation of quarries regulates dredging. If fully applied, it would suffice to control the exploitation of quarries in conformity with economic needs and the protection of the environment.⁷⁴

Drapor provides an industrial service in line with civic and ecological practices and maintains its actions serve sustainable development. It further claims to offer an economical sand that meets the quality requirements required by professionals.⁷⁵, with the advantage of storing the sand in accessibly for the construction sector.⁷⁶ Although Drapor benefits from its current monopoly, this has however come into question in more recent months.

However, according to Benmohammedi, if dredging companies apply for a permit to clean surfaces under water, they take the opportunity to extract marine sand which they then sell for construction.⁷⁷ They not only extract and sell sand illegally but also harm the entire ecosystem.⁷⁸ Benmohammedi notes that, even if dredging is necessary, it requires technical assessments and should not be carried out automatically, as dredging activities in Morocco are often an indirect means to extract sand illegally.⁷⁹

In August 2020, the Ministry of Energy, Mines and Environment granted Drapor a permit to pursue its dredging activities in the coastal town of Larache, despite studies underlining the potential harm to the environment and harmful impacts of dredging on the marine ecosystem. ⁸⁰ Furthermore, it also required an authorisation from the Ministry of Equipment, which was not in favour of the dredging. This example illustrates the a battle of influence, interests and perhaps lobbying occurred between the two ministries.

Dredging activities in Morocco are often an indirect means to extract sand illegally

Similarly, in Azemmour, Drapor has been involved in sand extraction conducted through its dredging actions.81 It is estimated that 250 trucks are loaded with sand every night.82 The sand is worth up to €1 000 per load. According to oceanographer and academic, Mustapha Labraimi, once the cost of this trafficking is deducted - the equivalent of 50 trucks - a net income from 200 trucks stands at €180 000 to €200 000 per night.83 Asked how it is possible for Drapor to access 250 trucks at once. Labraimi explained that a trucking syndicate facilitates this.84 In Morocco, the transport sector relies on a powerful syndicate to defend and protect its interests. Well organised, it can rapidly convene a large number of trucks to help companies such as Drapor transport sand. In doing so, it is guaranteed a large client and an important source of

Transporting sand and truck mafias

Moving the sand from the beaches to markets along the criminal value chain requires transportation. In the region of Moulay Bousselham (Kenitra), for instance, trucks transport sand almost every night of the week.⁸⁵ If licensed quarry companies do not infringe the law, many do not, however, possess a licence and therefore any truck transporting such illegally mined sand does so unlawfully.

Between Larache and Tangiers in the north-west, up to 600 trucks transport sand every day.⁸⁶ According to Benmohammedi, the 'road is bought' by the traffickers to allow them to pursue their illegal activity unhindered: 'It is impossible not to notice those hundreds of lorries which travel openly at night.'⁸⁷ The traffickers therefore benefit from the network of actors behind the practice. Additionally, 'the itinerary is marked out from point A to point B', suggesting that these traffickers could easily be followed, identified and intercepted if the authorities wanted to do so.⁸⁸ Even when the trucks are checked by the police, the content is checked but not the quantity.⁸⁹

Furthermore, although those operating legally with licensed quarries are, in theory, complying with the law, many take advantage of the lack of checks to either extract more sand than officially declared or go beyond the approved extraction zone. Benmohammedi notes that the sand mafia trafficking is facilitated by the Makhzen system, and the Ministry of the Interior, officially in charge of national security, 'turns a blind eye' to these activities. 1

Sand trafficking in Morocco could not occur without accomplices who have the political and economic power

There are indications that MPs are also involved.⁹² In the city of Nador, north-east of the country, trucks belonging to local politicians and MPs engage in illicit trading with foreign partners in the neighbouring Spanish town of Melilla. Moroccans with important responsibilities within their political parties are also part of such illegal networks.⁹³

According to Kaf Kamal, 'if a large part of the market comes from the illegal domain, then it necessarily goes through routes which are controlled by the gendarmes. Therefore, how is the circuit controlled? We know the source very well, we know very well which roads traffickers use, and which sites they arrive at but we cannot trace them at any stage'. 94 For Kamal, only corruption can facilitate such trafficking.

This is reinforced by observations during field research. Sand trafficking in Morocco could not occur without accomplices who have the political and economic power to facilitate it. These traffickers appear to be protected at all levels of the trafficking chain.⁹⁵

Road checkpoints and police controls are set up on main highways at approximately 15 km intervals. However, during the field research in mid-2021, trucks loaded with sand were observed travelling freely, with security forces only randomly targeting some trucks. Furthermore there are many cases of police force members being bribed to allow for this continued unchecked passage of sand in trucks. Interestingly, many truck drivers pay monthly highway access tolls, suggesting that they could be easily identified and found in contravention of the law. This would require a willingness from the authorities though. In trucks.

Indications are that truckers have no difficulty transporting sand loads of between 12-15 tonnes over hundreds of kilometres. When in Larache, the researchers approached some truck drivers on the pretence that of being promoters from Rabat who needed large quantities of illegally extracted sand. The drivers explained that there would be no difficulty providing the sand, which would cost €16-€20 per cubic metre, transport to Rabat included.⁹⁸

Truck drivers play a key role in the traffic of sand. They receive a monthly salaries of up to €2 000 to transport sand. 99 In a country where the average monthly salary does not exceed €300, this is a very attractive remuneration. One reason they are so highly paid is that if they are eventually arrested by the police, they are expected to remain silent and not reveal the names of those involved in sand trafficking, even accepting jail sentences for their silence. 100

Violence and intimidation in communities

The demand for sand leads to high competition along the value chain from mining to market. The well-organised sand mafia in Morocco has a reputation for being very violent, having no scruples, ignoring roadblocks and even killing people in its way, including police officers.¹⁰¹

At the head of these sand mafias are powerful men who do not hesitate to intimidate or denounce anyone who attempts to prevent them from pursuing their illegal activity. Moroccans who oppose sand trafficking are often threatened or assaulted. In a documentary on sand trafficking in Morocco aired by the Franco-German channel ARTE, a Moroccan woman who attempted to oppose this trafficking was beaten up by two sand traffickers. A TV crew that was filming sand traffickers was taken by force by these traffickers to the office of the local governor, where they were held for the entire day. In the village of Beni Oukil, north-east of Morocco, several Moroccans who opposed the selling of a hill to be transformed into a quarry by an entrepreneur were arrested and sentenced to suspended prison terms. Benmohammedi was also threatened by sand traffickers.

Box 2: Silence and censorship

Investigative research into the actors and markets in sand trafficking in Morocco has risks for respondents and researchers alike. On various occasions during the course of this research, respondents were reluctant to speak as they feared for their lives and the lives of their families. Several respondents confirmed that violence and intimidation in the sand sector occur on a regular basis, both from criminal actors and those protecting and benefiting from the sand trafficking.¹⁰⁷

This perception is shared in the research and media communities. In researching his thesis on urbanisation and ecology, architect Duncan Driffort notes that he was advised on numerous occasions not to go to beaches where sand was being extracted illegally ¹⁰⁸ In the ARTE documentary mentioned earlier, the reporter and those accompanying her were intimidated by sand traffickers ¹⁰⁹

'Morocco is a state where every move from every citizen is closely scrutinised by security forces,' a Moroccan activist explains.¹¹⁰ Media freedom is severely curtailed.¹¹¹ A worldwide scandal exposed the Moroccan regime's obsessive surveillance of foreign journalists, politicians and members of civil society through the software system Pegasus, developed by the Israeli company NSO Group, leading to the country being dubbed a North Korean-like dictatorship.¹¹²

For example, the six-year prison sentence imposed on Moroccan journalist Omar Radi for alleged espionage and rape¹¹³ highlights that, by attacking or spying on journalists, the Moroccan authorities

intend to discourage potential sources¹¹⁴ from exposing state complicity in trafficking of all sorts.

Considered together with the Makzhen system, the silence surrounding sand trafficking is a systemic impediment to exposing this trafficking and its devastating impacts.

The potential threats from traffickers are supported by regular pressure and harassment from the authorities. Sometimes this pressure goes beyond threats. Benmohammedi was the victim of an assassination attempt conducted by men linked to a company allegedly involved in sand trafficking.¹¹⁵ The bolts on all four wheels of her car were loosened, with the intention that they would detach on the motorway, leading to a fatal car accident. However, Benmohammedi did not use the motorway that day and the wheels detached while she was driving through the city.¹¹⁶

During his fieldwork, the author was informed that on one occasion Hamid Sayad was giving a TV interview when he and the TV crew were suddenly attacked by strangers. Although there were policemen nearby, they did not intervene¹¹⁷

Grey areas and loopholes

Legal loopholes, or what Beiser terms grey areas,¹¹⁸ enable companies to either extract sand or to build along the coast, circumventing or ignoring the laws related to sand extraction and construction.

This section focuses on key grey areas in legislation related to regulating construction along the coast, monitoring and traceability, licensing and oversight.

Despite findings outlined in the previous sections, the Moroccan government acknowledges on its official website that 'the deterioration of the littoral is accentuated by the insufficiency, inefficiency and perhaps obsolescence of the existing judicial texts, [of] which a large part remain scattered, sectoral and totally unsuitable to the current context'.¹¹⁹

Construction industry regulations

Article 15 of Law 81-12 is mandated to prohibit construction less than 100 metres from the coastline. However, this prohibition does not apply to construction

or installations necessary for public services or activities or where the proximity to the coast is justified by the facilities' purpose. This is vague and does not specify the types of activities nor the extent of deviations from this rule. With this openness to interpretation, many exemptions are granted, even for the main coastal developments. The coastal law maintains a relatively flexible framework in the face of an investment on the coast. The case of a construction site in Mohammedia near Casablanca is illustrative. There, Lot 283 is an excellent example of a project where economic interests take precedence over the environmental impact, with construction that does not respect coastal law.

Origin and traceability

Another grey area facilitating illegal sand mining is traceability. The traceability of sand is probably one of the most difficult issues to resolve for regulatory authorities because it is in this legal, geographical and social vagueness that sand exploitation is carried out 'unseen'.

According to UNEP, 'there is a lack of adequate information on sand extraction [...] Sand and gravel are a challenge to trace to their sources. Strategic monitoring for governance, planning and management of global sand resources is lacking'. This applies to both the source and quantity of extracted sand in Morocco, half of which is extracted illegally. According to UNEP, at least 55% of the sand sold on the Moroccan national market comes from illegal coastal sand extraction. UNEP's figures correspond to the total number of quarries in Morocco. There are 1 680 legal sand quarries in Morocco but it is estimated that an equivalent number remain undeclared and are therefore linked to illegal extraction.

Moreover, since 'precise data on sand extraction are hard to come by, the lack of data compounds the challenge of managing the resource sustainably'. 125

The lack of traceability also implicates laboratories, whose role is to analyse samples of sand or concrete to ascertain, for example, whether or not they are suitable for construction. Such analyses form part of the security process. However, laboratories in charge of analysing sand, concrete and other construction materials often refuse to conduct analyses for individuals investigating firms such as big construction companies, for fear of losing their clients. ¹²⁶ In other words, they would rather remain silent than point out potential risks due to the use of inappropriate sand or construction materials.

The origin of the sand used in any particular situation is not necessarily unknown to the authorities. For instance, in the region of Tiznit, south of Agadir, the authorities decided to upgrade a road in 2012-2013. The agency in charge of ordering it was the Moroccan Ministry of Equipment, while the company conducting the work was Bioui Travaux, a private Moroccan company.

It is believed that Bioui simply extracted coastal sand from neighbouring Sidi Rabat and Sidi Oussai. It is allegedly impossible for the Ministry of Equipment not to have been aware of this use of coastal sand for a road-building project that lasted two years.¹²⁷

The traceability of sand is probably one of the most difficult issues to resolve for regulatory authorities

Likewise, in Saïdia, in the north-east of Morocco, Bioui was also awarded the contract to strip a dune at the city's border. The equivalent of 15 000 cubic metres of sand was transported to a location determined by the local administration for it not to be sold. Yet, reports indicate that this extracted sand was then used for the construction of social housing in the city.¹²⁸

These examples demonstrate that the Moroccan authorities were either unaware of the use of coastal sand by Bioui or they did not investigate the issue, effectively allowing a private company to use coastal sand, which is the cheapest sand but not the most appropriate, to build motorways. This raises the question of auditing as well as the responsibility of the authorities.

Licensing

As noted, registered companies operating with a licence to extract sand often mine beyond the approved extraction zone. The Moroccan authorities rely solely on the companies' declarations and no physical checks are done. The absence of independent auditing further facilitates such trafficking, increasing the power of the sand mafia in Morocco. This situation needs further analysis.

Harmful consequences of sand trafficking

Environmental and other consequences

Illegal sand extraction has enormous consequences, not only for the environment but also for the Moroccan population. According to Peduzzi, Director of the Global Resource Information Database (GRID) at the United Nations Environment Programme in Geneva, the long-term consequences of sand trafficking and extraction are destroying the livelihoods of local people.¹³²

Destruction to coastlines

In 2007, Pilkey and colleagues noted the environmental impacts of sand extraction in Morocco, stating that 'beach mining, mainly near Morocco's major coastal cities, has created lunar-like landscapes on the coast, destroyed the littoral marine ecosystem, endangering adjacent wetlands, and significantly increasing the vulnerability of coastal infrastructure to storms and rising sea level'.¹³³

Today, between Safi and Essaouira, a large beach has been transformed into a rocky landscape by sand traffickers. 'In some locations, continued construction is likely to lead to an unsustainable situation and destruction of the main natural attraction of visitors – the beaches themselves. The touristic northern town of Asilah has suffered severe erosion of its beaches, due to regulatory issues, and pressures relating to tourism. Many of the structures near the coast are now in danger from the erosion that created them.' 134

Dunes play a natural protective role for inland sites. And according to FloodMap's predictions, ¹³⁵ Casablanca's coastline is particularly exposed to rising sea levels. ¹³⁶ Birds are scared away by the sound of sand trafficking trucks, which affects the reserve's ecosystem. ¹³⁷ Roads are also damaged from the passage of overloaded trucks using the same route every day. ¹³⁸

Dredging

Dredging brings unique harms, since sub-marine dunes are directly linked to coastal dunes. As figures 4, 5 and 6 show, sand extraction via dredging results in the erosion of dunes of 4 metres every year.¹³⁹ The furrows caused by dredging destroy the underwater dunes, which serve to 'break' the energy of the ocean swell. The disappearance

of the underwater coastal dunes increases the salinity of the coastal water tables, which in turn negatively impacts irrigation of adjacent market-gardening areas.¹⁴⁰

Dredging damages reefs, which affects aquatic life and reduces species diversity, impacting fisher livelihoods

In cases where dredging is stopped, it takes five to 10 years for the ploughed area to return to its original shape.¹⁴¹ Below water, dredging also damages reefs, which affects aquatic life; fish disappear as they are forced to migrate to different waters.¹⁴² The turbulence generated by dredging activity can dramatically reduce species diversity.¹⁴³ which in turn affects fisher livelihoods.¹⁴⁴

Child labour

Another aspect of sand trafficking is the employment of children, who are often out of school. Besides the massive trucks and engineering machines used by companies, many traffickers employ children in coastal places such as Larache, Assilah and Tangiers. The children use donkeys or tuk-tuk to transport the sand, working eight hours per day, six days per week for a daily salary of €4 to €6.145

If I have to sweat, I would rather do it for money.' ('Tant qu'à suer, autant se faire de l'argent.')¹⁴⁶ This statement from a young boy speaks for itself. Due to the hardship of their labour, many of these children – some as young as 12 years old – suffer a range of physical ailments.¹⁴⁷ They work without hiding from the authorities, which indicates that the latter are fully aware of such labour.¹⁴⁸

Thirty-five percent of the Moroccan population is illiterate, the majority of whom work in the construction industry. For Driffort, since illegal mining gives poor people a job, it is challenging to address the collapse of resources with a population that already lives in a harsh social context. Those poor families very often rely on their working children to make a living. Environmental issues linked to the extraction of coastal sand are therefore not a priority for them as their main daily goal is to find any financial means to live. However, many in

Morocco do not realise that once there is no more sand to extract, they will have no means to make money. And beaches will have disappeared for decades.

Unsafe buildings

The use of coastal sand in construction has further serious consequences. This sand has a high degree of salt which makes it unsuitable for construction unless it is thoroughly washed, which is not always the case.¹⁵⁰ As a result, a chemical reaction swells the concrete until it bursts, resulting in the collapse of buildings. In Casablanca alone, it is estim ated that between 4 000 and 7 000 houses carry such a risk.¹⁵¹ A building collapsed in Kenitra in 2008, killing 18 workers. An investigation concluded that the bad quality of the concrete utilised was responsible.¹⁵²

Muddy sand, which is inappropriate for construction, has also been used in Kenitra. Benmohammedi claims that concrete professionals and construction companies that buy low-quality sand without receipts are directly or indirectly involved in sand trafficking. 154

Coastal sand has a high salt content, making it unsuitable for construction unless it's thoroughly washed

Once made, concrete - a mixture of sand, water and cement - is difficult to transport for long distances as it has to be used quickly. Across Morocco, the number of individuals building their own houses is increasing, leading to a high demand for concrete. This has led to the mushrooming of small concrete entrepreneurs. In order to be near the different construction sites, they often ignore the law and buy their sand anywhere they can, with no receipt and therefore no traceability.¹⁵⁵

The use of poor-quality concrete, combined with a lack of quality control, as it is not obligatory for individual houses, puts many Moroccans at risk.¹⁵⁶

Cement companies and lobbying

Cement companies have an economic power that is well established at the national level.

Armelle Choplin, an associate professor at the Global Studies Institute in Geneva, conducted extensive work in West Africa and argues that cement companies play an important lobbying role in the construction sector, in which corruption and money laundering occur.¹⁵⁷

This view of cement companies' lobbying is shared by UNEP, which notes in its report the responsibility of foreign companies such as Cemex, Heidelberg, Lafarge Holcim, CRH and Sibelco in, for instance, the occupied Western Sahara territory. UNEP argues that "these companies are thought to be deeply involved in sand resource flows and use the world over as sand extraction and consumption is linked to regional economies." 158

It is likely that the French cement company Lafarge, which signed a financial agreement with the terrorist group Daech in Syria in 2014 in order to pursue its economic activities, would be complacent about sand traffickers in Morocco.¹⁵⁹

Alternative solutions to using sand

In Morocco, as elsewhere in the world, sand extraction and its trafficking are not sustainable in the long term. The environmental consequences for the country are dire. Beaches have already started disappearing, and that means less to attract foreign tourists. This will inevitably impact the Moroccan economy as tourism accounts for 11.4% of gross national product.

Alternative solutions to using sand would lead to less sand used in construction and therefore fewer trafficking opportunities for criminals. Less sand would be extracted, especially from the coastline, thereby contributing to the protection of the coast and its dunes.

International examples point to possible alternative solutions. Japan, which banned marine and sand mining in 1990, has developed alternative methods of producing fine sand by crushing quarry waste for use in construction projects. ¹⁶⁰ In Florida, USA, glass bottles are turned into sand, which many perceive as a promising alternative ¹⁶¹

In Algeria, companies use shredded rubber tire aggregates for roller-compacted concrete pavements. Because it preserves natural resources and produces an eco-friendly material, the recycling of waste rubber tires in pavements is considered an ecological and economical solution.¹⁶²

The architect Myriam Soussan argues that renovating old buildings rather than constructing new ones is an option that combines the comfort of modernity with respect for the environment.¹⁶³

As Soussan points out, sand trafficking can also be addressed by (re)educating people about the importance of sand for the planet, as well as the availability of cheap alternatives. The lack of understanding that sand is an integral part of the ecosystem contributes to its illegal extraction.¹⁶⁴

However, corruption and criminality are so embedded in the socio-political system in Morocco that alternative solutions may not suffice to stop or even diminish sand trafficking. Technical alternatives aside, tackling this criminality is primarily a political and judicial issue. But, as this research has shown, it is unclear whether fighting corruption is a priority for the Moroccan authorities.

Conclusion

The September 2020 commission to explore the use of marine sand and the new decree (Law N°2-17-369) regulating sand extraction entered into force in November 2017 have been signs of positive change

to sustainably mine sand in Morocco and regulate the industry.¹⁶⁵ However, the commission and the decree seem to be insufficient for the authorities to put an end to sand trafficking in Morocco. A key reason is because corruption is deeply rooted in the Moroccan socioeconomic political system.

The Moroccan authorities undeniably bear responsibility for the current environmental and economic situation related to sand extraction and its trafficking. In this regard, Moroccan authorities seem to comply with the law only when external pressure is exerted on them. Classified RAMSAR sites, for instance, are internationally protected and the Moroccan authorities are keen to preserve such places.

Ironically, most of the sites affected by illegal sand extraction in Morocco are those retained by the authorities for their grandiose tourism scheme, Plan Azur. Larache, where the dunes have literally disappeared, is a clear example. However, before being a legal and environmental issue, sand extraction is primarily a political one, as it is a question of development strategy. Furthermore, from an economic and development perspective, Plan Azur is a fiasco. Most sites have yet to operate to full capacity.

Morocco's beaches are disappearing at an alarming rate



Source: Uzi Media for ISS

The self-interest underpinning the Makhzen system needs to be addressed to find ways to create sustainable sand extraction. Without doing so, all beaches will either be disfigured forever or disappear in the medium to long term and no longer be the source of added wealth and influence they are currently. As a further consequence, the attractions of Morocco will diminish and fewer foreign tourists are likely to visit the country. This will also impact negatively on those using the system for their own gain.

Recommendations

There are no clear recommendations at national level calling for policy change to disrupt sand trafficking at source, during transportation and at markets in Morocco. The findings of this study indicate that the systemic enablers are well entrenched and largely accepted. There is also little tolerance for transparency or critique, such as raising concerns about the harms of sand trafficking for people, their livelihoods and the environment.

1. Local civil society organisations and the media

- Civil society groups and non-governmental organisations could set up an association to hold to account those responsible for accidents related to construction.
- Use available performance technology to enable controls around the traceability of sand, especially in the case of collapsed buildings. This would render every operator accountable (extractor, construction companies, concrete companies).
- Raise awareness of the urgent need to prevent the erosion of coastal dunes through extraction as well as the need to protect the environment.
- Local NGOs should promote the international classification of more protected areas across Morocco.
 One way to do so is to run campaigns, using media and international fora, to promote awareness of harms. Social media should be used to target a larger and younger audience. The use of billboards in key coastal zones could also be part of the campaign strategy.

2. Moroccan government and international community

 Morocco has ratified numerous international treaties related to the protection of the environment.

- Morocco's partners can only exert pressure
 on Moroccan authorities if a Moroccan site is
 internationally classified, such as those that receive
 a RAMSAR classification¹⁶⁹. One way to exert more
 pressure on the Moroccan authorities may be
 to classify more natural sites that would receive
 international protection.
- UNEP is involved in promoting innovation and strengthening laws and governance through partnerships with different countries. Such a partnership could be conducted with the Moroccan authorities for better sand use.
- Part of the international financial aid Moroccan authorities receive for the protection of the environment could be used as a condition for a mise à niveau (levelling up) of the Moroccan administration to fight sand trafficking.
- An audit system of international companies would enable an overview of the current actors and their practices. Auditing conducted by an external and, when feasible, international company may prevent connivance and inaccurate reports.
- Morocco's partners must comply with international law and refuse to trade any sand extracted from Western Sahara and sold by Moroccan companies.
 Any foreign company that trades with Morocco in this respect should be sued and condemned for not respecting international law.
- Business owners of recipient states must be rendered accountable if found culpable of trading sand from Morocco or Western Sahara.

3. Focus on the environment

- Despite Law 27-13 related to the exploitation of quarries, dredging activities continue. Tighter controls must be implemented, including through regular surveillance of dredging sites, as well as studies on the potential impact on the environment before any dredging activity begins.
- The use of new construction materials that are less damaging to the environment must be encouraged.
- Currently, only 50% of those working in the sand industry do so legally. One way to increase this percentage would be through financial incentives for those respecting the law. For instance, companies working legally could obtain tax-free status for a predefined period or their taxes could be reduced.

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These rulings were further confirmed by the 2002 legal opinion of the United Nations Legal Counsel, which emphasised that the exploration and exploitation of natural resources could only be conducted in Western Sahara in compliance with international law.

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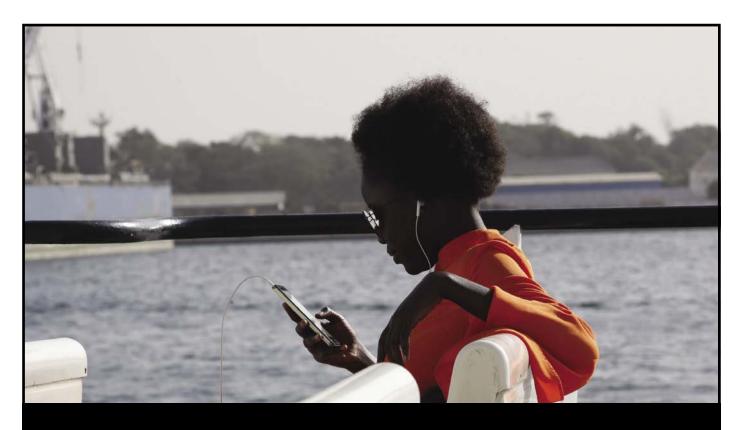
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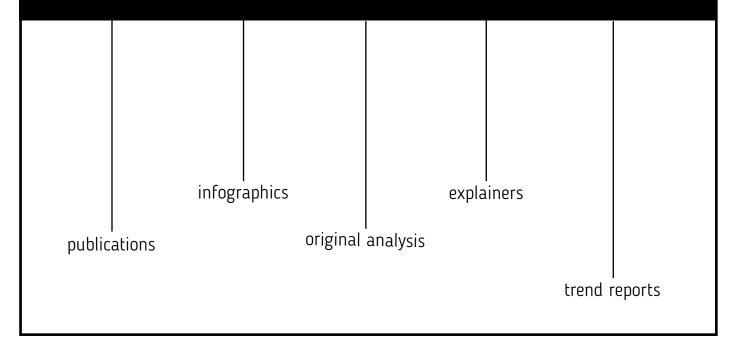
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Sandalwood trafficking in Kenya

Deforestation and the exploitation of local communities

Summary

Sortification of authorized process of the control of the control

POLICY BRIEF

- Sandalwood trafficking is an environmental crime that leads to a loss of blotheratily, which has a negative impact on the ability of communities to produce enough flood to virsuse their halfmods.
 Witness seem to control the sandalwood trafficking nestoric in Similburu Coursy, fitter as harvesters at the community level and their as the reades coordinatings in histogies between found communities, politice efficies, and other members of stees agencies.
 Sandalwood selfcoting in Kings seems to rely on state officials who protect this organised crime network.
 A multi-spency approach to tackling sandalwood trafficking has had some success since 2000 and should be community.
- be continued.
 Through the support of state and community agencies, sandalwood trees can be propagated in order to enable their sustainable harvesting and the commercialisation of the trade in nonthern Kenya.







Constructing crime

Risks, vulnerabilities and opportunities in Africa's communications infrastructure

Summary

PAPER

ESEARCH

While Africa's growing comm White Afficies growing communications inflassizations and increasing internet potentiation offer significant devologemental benefits. Any offer parallel opportunities to organised crime, which exploit the continent's enhanced connectivity. These opportunities are set to grow with hascent research already indicating that the continent is an increasing important source of both option of the continent and option and o

- Key Findings

 The pace of communications infrastructure development and the increase in intermet penetration including e-communications infrastructure development and cloud-19 has further enabled these trends.

 The independent person and displat sectors are vasily under-engulated, and many countries tack legislative reharmorists protective option communications.

 Cyber criminals on the continent are keeping pace with ongoing displation, liveraging newly available techniques.

 Afficials financial services sector is particularly supplead by criminals exploiting the sector's relitance on communications inflasmencues. Mobile money is particularly unlenable to criminal interference and is videly used to faunched criminal profits.

 The prevalence of commining handware and software with ribulit vulnerabilities to hacking, presents a key unlenable to continue where the counteries marker is significant.

 The nacional sector of commining handware and software across Affica, which is predicted to accelerate, constitutes a significant and increasing vulnerability to organised crimin.







Whose conflict is it anyway?

Addressing conflicts of interest in South Africa's public sector

Conflicts of interest are situations rather than actions, as such, they do not constitute corruption in and of themselves. However, if left unmanaged and unregulated, conflicts of interest have the potential to result in comption. The vinious corruptions can candidate reported in the media on a dual basis are often manifestations of conflicts of interest which were informanaged and unregulated.

Against this background, this paper delives into the notion of conflict of interiest and argues that similarly no corruption, conflicts of interiest cannot be enablished. Bather, these conflicts should be managed and regulated. An effective conflict of theretis system is crucial in not only managing these conflicts but also as a preventative anti-corruption tool.

- A law challenge is the lack of understanding by those involved of what constitutes a conflict of invenest and how to address it.
 An efficient system to monetor possible conflicts of invenest is required in the public sector. Even when legislation and regislations prohibits conflicts of invenest, the systems nociosary to monetor conflicts are invising and enforcement is weak.
 Adapting new exchology, such as block-bain; can streamline and strengthen the invalugement of conflicts of invenest issuasions in the public sector.
 Conflicts of invenest cannot be enacticated but with clear policies on disclosure, monetering and enforcement, they can be managed.







West Africa's warning flares?

Rethinking the significance of cocaine seizures

Drug setures are widely referred to in the media and academic reporting on drug trafficking and organised crime. Devignes knows their limitations. But what if sixtures represent the east opposite of what we generally think them to be 7th That is, not a religious on drate efficiency, but rather capture, spessms of political protection. If that is the case, they may appear more regularly as some times rather than others. A detailed study of West African occains expense in the context of periods of political instability over a twenty-year period suggest this association is worth exploring.

BRIE

POLICY

Key Findings Drug saktures in West Africa have been concentrated in two periods 2003-2012 and more lately in the period from 2019, with a selture drought in between the period from 2019, with a selture drought in between a regional lawel increases in seltures correlated with period of declining political stability while declines in seltures occur driving periods of political stability. This relationship can also be seen in countries with cycles of certificial and instability, namely Culinea-Bissau and Mall Robadys sezurion occur in the period plus before instability increases. As there is strong endisone of political protection over the drug stafficking economy in the region, increases in seturium may align with periods when political protection systems for stafficking wasken or crack. Setures decline again when every steems of political protection are put in place. One outlier is Nigerta which has a very stable and low level of seturium. This is a refliction of a long-standing and lower-level systems of criminal protection, partly the outcome of the fact that most illicial profits are generated outside the drug sector. This suggests that sixture data is important - but not for the reasons generally scoepped - and when carefully examined can be read as a reflection of changes in the political economy. If so, they may seene as warning flares' of pending political instability.

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About ENACT

ENACT builds knowledge and skills to enhance Africa's response to transnational organised crime. ENACT analyses how organised crime affects stability, governance, the rule of law and development in Africa, and works to mitigate its impact. ENACT is implemented by the ISS and INTERPOL, in affiliation with the Global Initiative Against Transnational Organized Crime.

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