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THE 21st CENTURY FIGHT FOR THE AMAZON

Environmental Enforcement
in the World's Biggest
Rainforest

**Edited by
Mark Ungar**



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Peru: A Legal Enforcement Model for the Amazon

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and Milagros Granados Mandujano*

Abstract Written by the directors of one of the Amazon Basin's strongest enforcement bodies, this chapter describes, in great detail, how a national agency puts together a nationwide system of environmental enforcement able to reach into every activity and region. It also shows how that system grapples with the country's vast Amazon region amid clamors for economic development, tensions between the central government and local populations, the uncertainty of national politics, and other formidable roadblocks for what could be an international model of ecological enforcement.

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INTRODUCTION

The Peruvian Amazon extends over 782,880.55 km² of the Amazon basin, occupying 13.05% of its continental reach. It is home to approximately 38,020 species of plants, mammals, birds, reptiles, and amphibians (Programa de las Naciones Unidas para el Medio Ambiente (PNUMA) et al. 2009, p. 112), making Peru one of the planet's few megadiverse countries. The region also provides critical services, such as water cycle regulation, capture of carbon dioxide (CO₂), and a supply of forest products. That combination of preservation and provisions has given Peru the challenge of taking advantage of its natural resources while also developing a sustainable development for future generations. Such a difficult challenge will require joint efforts of public and private actors—citizens, companies, and public authorities—to and comply with established laws and implement innovative actions. To direct such efforts, in 2008, Peru created the Agency for Environmental Assessment and Enforcement (OEFA, for its Spanish acronym), whose primary duty is control of economic activities that impact the environment as well as the performance of other public entities in charge of environmental control. This chapter assesses OEFA's performance in those roles. By describing how even this well-prepared centralized authority struggles to manage such enforcement, it provides lessons for the wider Amazon region.

PERU'S LEGAL FOUNDATION OF ENVIRONMENTAL PROTECTION IN THE AMAZON

The legal framework to protect the Peruvian Amazon is based on international and national law.

International treaties and declarations. Based on the recognition of States' obligation to protect the environment in the 1966 United Nations International Covenant on Economic, Social and Cultural Rights, Amazon Basin countries began to forge conventions for the conservation and sustainable use of its resources. In 1978, Peru and the other eight Basin countries signed the Amazon Cooperation Treaty to promote joint actions for harmonious development of the Amazon

based on the preservation, conservation, and rational use of its natural resources. This treaty then gave rise to the Amazon Cooperation Treaty Organization (OTCA) in 1998. Subsequently, States parties to the United Nations adopted other international instruments of environmental protection, such as the 1982 World Charter for Nature, the 1992 Rio Declaration on Environment and Development, and the 1992 Convention on Biological Diversity. These advances all boosted promotion of natural resource conservation in territories like the Amazon, which are critically important for global attainment of sustainable development.

The Constitution: Article 2 of the Peruvian Constitution recognizes the fundamental right of everyone to enjoy a balanced and adequate environment. To support that right, the Constitutional Court affirms that the State has unavoidable obligations to maintain environmental assets, and that such obligations extends to individuals. The Constitution also has articles (66–69) regarding the protection of the environment and the sustainable use of natural resources, which stipulate the duties to conserve biodiversity and to regulate the use of natural resources, among others. Article 69, in particular, obliges the State to promote “the sustainable development of the Amazon with appropriate legislation.”

Legal framework: Peru has steadily built a system of law to protect its Amazonia. The centerpiece of that protection is the General Environmental Law (Law 28611), which states that such protection must be part of the basic guidelines of any public policy adopted by the State, including the National Environmental Policy. In compliance, the 2009 National Environmental Policy made the Amazon’s sustainable development a key objective, to be realized through several approaches: Promotion of research and use of clean technologies in mining and energy activities in the region; Recovery of areas degraded by illegal mining; Protection of Amazonian primary forests and gradual reduction of logging, slash, and burn for agricultural purposes; development of productive alternatives for forest use, such as ecotourism; Promotion of conservation and sustainable use that accounts for its variability, complexity, fragility, and geostrategic location. A central measure implemented to comply with the National Environmental Policy is the establishment, as discussed in the chapter on Ecuador, of Protected Natural Areas (hereafter PNAs)¹ throughout that region. As defined in Law 26834, PNAs constitute continental and marine spaces of the national territory in order to conserve biological diversity and other

associated values of cultural, scenic, and scientific interest, as well as to contribute to the sustainable development of the country. Currently, due to the richness of the biological diversity in the Amazon region and the importance of its conservation, the State has established 36 PNAs, which fall into the following categories: ten National Parks, three National Sanctuaries, one Historical Sanctuary, five National Reserves, ten Community Reserves, three Protected Forests, and four Reserved Areas.² The protection of these natural areas is vital for the conservation of the Peruvian Amazon.

OEFA AND ENVIRONMENTAL PROTECTION

To fulfill its duty to protect the right to a healthy environment, the State is obliged to adopt actions aimed at the conservation, prevention, repair, or compensation for changes to the environment. In 2004, Peru established a regulatory framework called the Framework Law of the National Environmental Management System (Law 28245) (SNGA for its Spanish acronym) to guide, integrate, coordinate, oversee, evaluate, and ensure the implementation of policies, plans, programs, and actions for the protection of the environment and the conservation of natural resources. SNGA is comprised of a set of agencies, led by the National System of Environmental Impact Assessment (SEIA for its Spanish acronym), the National System of Natural Areas Protected by the State (Sinanpe: El Sistema Nacional de Áreas Naturales Protegidas por el Estado), The National System of Environmental Information (Sinia: Sistema Nacional de Información Ambiental), and the National System of Environmental Assessment and Control (Sinefa: Sistema Nacional de Evaluación y Fiscalización Ambiental). Sinefa was created in 2009 through the National System of Environmental Assessment and Control Law (Law 29325). It comprises the Ministry of the Environment (hereafter *Minam*), OEFA, and the Environmental Inspection Entities (hereafter EIEs) at the national, regional, or local level. Sinefa aims to ensure compliance with environmental legislation, which includes verification of the oversight in environmental matters by various State entities. As both a governing and specialized technical agency affiliated with Minam, OEFA carries out environmental control actions at two levels. First, it supervises the environmental obligations of companies in the areas of mining (medium and large-sized), energy (hydrocarbons and electricity), fisheries (industrial fishing

and aquaculture), and industry (beer, paper, cement, tannery, biofuel, among others). As Sinefa's governing body, in addition, it supervises the performance of the EIEs at the national, regional, and local levels and issues regulations for them.

OEFA's environmental regulation centers on *ex post* control of companies' activities, supervising them once the economic operation, including exploration, has begun. This control process includes a diagnosis of the environmental quality of the area of the proposed project or activity, the oversight of environmental obligations and, if non-compliance is detected, processing the respective sanctioning procedures, in which sanctions can be imposed and precautionary and corrective measures can be issued. The process also includes granting of incentives to companies for good environmental practices (Gómez Apac and Granados Mandujano 2015, p. 78). Altogether, OEFA's control centers on six main roles:

Environmental assessment: This function includes monitoring of environmental quality and development of comprehensive environmental assessments to do so. Such monitoring centers on samplings taken at different points in order to determine the state of environmental components (water, air, soil, flora, and fauna) in each area's ecosystem (Organismo de Evaluación y Fiscalización Ambiental (OEFA) 2015, p. 92). The second has greater complexity, since it consists of generating environmental diagnoses that involve the identification of possible sources of contamination and, in some cases, the determination of levels of risk to the environment in extensive areas, such as watersheds, exploration lots, reservoirs, aquaculture zones, energy nodes, and bays. The results obtained from these actions may lead to subsequent oversight actions in order to verify whether the companies operating in the area comply or not with their environmental obligations and whether the modification or alteration of an environmental component is due to those companies' economic activities.

Oversight: OEFA's oversight function centers on follow-up and verification of the activities of companies in order to ensure a good environmental performance and compliance with their environmental obligations, as specified in: (i) environmental regulations, (ii) environmental management instruments, (iii) administrative orders issued by OEFA, and (iv) other sources of environmental obligations (Gómez Apac and Granados Mandujano 2015, p. 82). The oversight function is aimed at preventing environmental damage and promoting voluntary

rectification of alleged breaches. Since 2013, OEFA has been emphasizing preventive and corrective environmental controls that promote such voluntary correction. Law No. 30011 of 2003 first introduced this approach by issuing regulations stipulating that if a company rectifies minor breaches—involving either actual or potential harm—then it would not be subject to sanctions. In 2015, a new regulation extended the scope of this benefit to breaches qualified as “moderate,” which involve potential damage to flora and fauna. Through a preventive and corrective approach, these regulations aim to avoid environmental damage and promoting voluntary rectification of violations. Such an approach is seen as maximizing the best outcome for both for companies and the state.

Administration: On the other hand, under the oversight function, OEFA is empowered to issue administrative orders, including preventive measures, mandatory mandates, and requirements for updating environmental management instruments. Administrative orders are issued by OEFA bodies to companies to comply with one or more of three measures. The first is Mandates: Aimed to order companies the elaboration or generation of relevant information or documentation to ensure the effectiveness of environmental control and which go beyond simple information requirements. This type of measure includes the preparation of technical environmental studies, monitoring programs, and others of a similar nature that generate information on environmental performance. A second required measure is for updating environmental management instruments, issued when negative environmental impacts are detected and differ significantly from those stated in the environmental certification. Under this measure, the company must request an update of its environmental management instrument to include the actual impacts of its activity. A third set of measures are preventive and exceptional measures issued when there is an imminent danger or high risk of serious damage to the environment, natural resources, or public health, as well as to mitigate degradation or damage to the environment. These measures are not necessarily related to alleged breaches, and are based on the principle of prevention in the General Environmental Law (Law 28611).

Enforcement and sanctioning function: OEFA can investigate any suspected breaches of environmental obligations. If a breach is demonstrated, sanctions or corrective measures can be imposed. There

are four such measures, all centered on the principles of proportionality and reasonableness: (i) *Adequacy*: The company must adapt its activities to specific standards, often through mandatory training courses, to ensure the mitigation of possible harmful effects on the environment or human health; (ii) *Standstill*: To stop or neutralize an activity causing environmental damage, through measures such as confiscation of goods or the temporary or definitive closure of establishments; (iii) *Restoration*: To restore, rehabilitate, or repair the altered situation, such as to restore a faunal population decimated by environmental contamination; and (iv) *Environmental compensation*: For an environment that cannot be restored, these measures include compensatory reforestation on nearby land with similar development possibilities.

Incentives: Environmental control also includes granting incentives to companies in order to encourage good practices (Lozano 2010, p. 595). This system is run through OEFA's Register of Good Environmental Practices, in which it records companies that fully comply with both state environmental regulations and their own commitments. Registered companies can also earn incentives if they carry out practices beyond those required by state regulations, their own commitments or orders issued by authorities. To encourage such over-compliance, OEFA has a range of honorific and economic incentives. Honorific incentives include (i) the incorporation into the Environmental Excellence Ranking—REAL, (ii) the annual Qumir Rapi award (green leaf), and (iii) the annual Qumir Kawsay award (for "green living"). Economic incentives include a Certificate of Discount on Fines, which represents a value in taxation units (UIT) that is transferable and is valid for 4 years.

The EIEs: But perhaps OEFA's biggest and most difficult oversight role is Control of Environmental Inspection Entities (EIE). OEFA is authorized to supervise, issues regulations for, and verify performance of the Environmental Inspection Entities (EIEs), which conduct most environmental controls on the multiple levels of Peruvian governance, centered on a federal government and the country's 25 regions (analogous to US states), each of which is subdivided into provinces (provincias), which themselves are composed of districts. At the national level are ministries and specialized agencies with environmental control functions. For example, the Ministry of Production oversees

fisheries. Regional governments, for their part, have environmental oversight in the mining, agriculture, health, fisheries, and tourism subsectors, as well as small-scale and artisanal mining. EIEs at the provincial and district municipalities, finally, also have environmental control functions, such as over control of solid waste management. OEFA carries out on-site and documentary oversight of all these EIE duties, often with technical assistance and training to ensure that they are carried out. When it discovers a breach of duties, OEFA reports it to the Peruvian General Comptroller to further determine legal responsibility. OEFA may also file criminal complaints through its Public Prosecutor's Office, which covers two main areas: actions or omissions of public officials or EIE personnel that may lead to criminal liability; and actions or omissions by natural or legal persons supervised by the EIEs that may cause a serious risk or damage to the environment or human health, and thus may constitute environmental crimes.

PRINCIPAL PROBLEMS IN THE AMAZON: OEFA'S ACTIONS AND EIE OVERSIGHT

OEFA oversees all activities affecting the environment, with a focus on mining, forestry, and solid waste. Mining activities, a key issue, are classified into four types, based on the magnitude of their environmental impacts: artisanal, small-scale, medium-sized, and large-sized (Mining Law article 91). Depending on the category in which their activity is classified, miners must have certain types of environmental management instruments (IGA for its Spanish acronym). Artisanal and small-scale mining producers (SMP) require an Environmental Impact Statement (EIS) or a Semi-detailed Environmental Impact Assessment (EIA-sd); medium- and large-sized producers need an EIA-sd or Detailed (EIA-d). As shown in Table 4.1, control over these instruments corresponds to different public authorities, depending on their levels of expertise and capacity. Since OEFA has greater technical capacity and resources to oversee activities with greater environmental impact—medium-sized and large-sized mining in particular—it supervises them. Regional Governments (GORE) oversee small-scale and artisanal mining (Ministry of Environment 2016, p. 32).

Table 4.1 Entities responsible for the environmental control of mining activities

<i>Type</i>	<i>Concession size</i>	<i>Installed production capacity</i>	<i>Responsible state authority</i>
Large-sized mining	A limit has not been established	More than 5000 TMD	OEFA
Medium-sized mining	A limit has not been established	Between 350 and 5000 TMD	OEFA
Small-scale mining	up to 2000 Ha	up to 350 TMD	Regional Government
Artisanal mining	up to 1000 Ha	up to 25 TMD	Regional Government

Source Created by authors

Mining is illegal when carried out without proper titles or in prohibited areas. It is by far one of the biggest sources of damage not just to biodiversity and the forests, but to the health of the people who live in them, mainly from absorption of the mercury, lead, and arsenic commonly used in this activity. Those substances also contaminate bodies of water—rivers, lagoons, and lakes. A study by the Carnegie Institute determined that 60% of fish consumed in Puerto Maldonado (an area with high rates of illegal mining) had mercury levels far above those “allowed” by the World Health Organization (WHO), and that hair samples of 78% of the local population consuming fish from local sources had mercury levels three times the maximum limits allowed.³ Likewise, illegal mining produces toxic waste—especially cyanide and mercury—that contaminate the air, soil, and water. It is estimated that illegal mining has devastated more than 50,000 hectares of forests, as well as lagoons and marshes, in the central region of Madre de Dios, one of Peru’s four Amazon regions. It has even occurred in 17 PNAs and five buffer zones, as listed in Table 4.2:

That destruction spurred enactment of the Law on Formalization and Promotion of Small and Artisanal Mining (law 27651), which makes the GORE responsible for controlling and sanctioning those who qualify in the law as artisanal or small-scale mining producers, regardless of whether they are administratively accredited or not as such. Subsequently, Legislative Decree No. 1101 was issued to regulate the GORE’s obligation to include, in its Annual Environmental Control

Table 4.2 Protected areas and buffer zones where illegal mining has been documented

<i>Protected Natrual Areas (PNAs)</i>	<i>National Park and Reserve Buffer Zones (around PNAs)</i>
1. Parque Nacional Huascarán	1. Parque Nacional Cerros de Amotape
2. Santuario Nacional Tabaconas Namballe	2. Parque Nacional del río Abiseo
3. Santuario Nacional de Machu Picchu	3. Parque Nacional Bahuaja Sonene
4. Reserva Nacional de Salinas y Aguada Blanca	4. Parque Nacional Cordillera Azul
5. Reserva Nacional de Calipuy	5. Reserva Nacional Tambopata
6. Reserva Nacional Allpahuayo Mishana	
7. Reserva Paisajística Nor Yauyos – Cochas	
8. Reserva Paisajística Subcuenca del Cotahuasi	
9. Reserva Comunal El Sira	
10. Reserva Comunal Amarakaeri	
11. Ex Zona Reservada Gueppi	
12. Zona Reservada Santiago Comaina	

Source Created by the authors

Plan (PLANEFA for its Spanish acronym), oversight actions regarding small-scale and artisanal mining activities under its jurisdiction. This standard also requires the GORE to present quarterly reports to OEFA on their activities under the PLANEFA, as well as of non-programmed activities. Failure to submit the report is a breach that OEFA reports every 6 months to the General Comptroller.

OEFA has continuously overseen the Amazon Region GORE on their control of mining. On that activity, in 2013 OEFA conducted 11 actions in the region, and 18 each in 2014 and 2015. For its 2015 report on the 25 GORE (Organismo de Evaluación y Fiscalización Ambiental (OEFA) 2016c), OEFA examined the EIEs' four obligations on mining: (i) identification of illegal mining activities within their jurisdictions, (ii) communication of illegal mining activities to the Public Ministry and/or the Peruvian National Police (PNP), (iii) identification of cases of illegal mining and information to the GORE's Public Prosecutor, and (iv) request for legal interdiction through the Public Prosecutor's Office. It found that of the nine Amazon EIEs, seven identified illegal mining activities within their jurisdictions and five reported cases of illegal mining to the Public Ministry and/or PNP, but only one reported cases of illegal mining to the GORE's Public Prosecutor and only one requested

Table 4.3 EIE fulfillment of legal steps in environmental enforcement

<i>Step</i>	<i>Indicator</i>	<i>EIEs fulfilling their duties</i>	<i>Number</i>	<i>% Fulfilling</i>
1	Identification of illegal mining activities within their jurisdictions	Amazonas, Cusco, Huánuco, Madre de Dios, Pasco, San Martín, Ucayali	7	77.7
2	Identification of illegal mining activities and information to the Public Ministry and/or the Peruvian National Police (PNP)	Amazonas, Cusco, Pasco, Ucayali, San Martín	5	55.5
3	Identification of cases of illegal mining and information to the GORE's Public Prosecutor	San Martín	1	11.1
4	Request for interdiction actions through the Public Prosecutor's Office	San Martín	1	11.1

Source OEFA

legal interdiction through the GORE's Public Prosecutor. Clearly, the process of enforcement fell quite short, as illustrated in Table 4.3:

In addition to a lack of legal action, the biggest weakness was control of small-scale and artisanal mining, which is a region-level responsibility. Many reasons explain this weakness, such as the limited funding, logistical support, technical equipment, and of well-trained professionals who were, to put it generously, often less than fully aware of their responsibilities. OEFA tries to plug these holes. In 2015, for example, it provided 20 on-site visits of technical assistance as well as regional workshops in Iquitos, Cusco, and Junín.

A second area of OEFA sight is forests. Peru is heavily forested: humid tropical forests cover 56.09% of its territory,⁴ providing a large number of products, especially wood. All activities affecting these forests are regulated by: (i) the Forest and Wildlife Law (Law 29763), which created the National Forest and Wildlife Management System (Sinafor) to integrate policy, norms, management tools, and relations between State institutions, the private sector, and civil society, over forest management and wildlife. This law also established a Governing Body for this system, the National Forest Service and Wildlife (Serfor); (ii) Rules for the Management of Forest Plantations and Agroforestry

Table 4.4 Production of palm oil: Colombia, Ecuador, and Peru (2012)

<i>Country</i>	<i>Production of palm oil (in tons)</i>	<i>Total cultivation area (in hectares)</i>	<i>Cultivation area within the Amazon (in hectares)</i>
Colombia	966,900	452,435	n/d
Ecuador	325,000	280,000	25,000
Perú	130,000	60,000	60,000

Systems, and (iii) Rules for Forest and Wildlife Management in peasant communities and native communities. These regulations establish two ways to legally access forest resources. The first are through enabling certificates, which allow access through management plans for the sustainable use of forest resources and ecosystem services, such as concessions and permits in private lands. The other are other administrative acts authorizing deforestation and changes of land use for agricultural purposes.

Despite this regulatory framework, Peru's government has not yet formulated a comprehensive solution to the spread of illegal logging, defined as any activity using commercial timber or to eliminate the vegetal cover, for commercial or non-commercial purposes, without permits, concessions, forest authorizations, and/or approved management plans (Bernaes Alvarado 2008, p. 4). As described in this book's other chapters, there are many sources of illegal logging, ranging from structural problems like poverty and crime to poor implementation of environmental regulations. In the Amazon, it has proliferated primarily in tandem with oil palm cultivation, which is expanding globally to meet increasing demand for palm oil for food processing, cosmetics, and biodiesel. Great tracts of land in the Amazonia of Colombia, Ecuador, and Peru are now allocated to oil palm cultivation, as seen in Table 4.4:

In Peru, palm oil cultivation has become a major agro-industrial activity that must comply with two primary legal requirements: suitably qualified agricultural land, depending on the classification of land use (otherwise, an authorization for changing in land use must be obtained); and environmental certification of the project's specific activities. The EIEs responsible for overseeing oil palm cultivation and all agro-industry in the Amazon are Regional Governments, which approve and monitor changes in land use; and the Ministry of Agriculture and Irrigation (Minagri) to oversee environmental certification.

OEFA verifies environmental control on illegal logging by all other agencies. For the GORE, OEFA conducted eight supervisions in 2014 and two in 2015. As with mining, these actions revealed that the GORE's performance on forestry has also been woefully inadequate. Such inadequacy was exemplified by one of Peru's most notorious cases of deforestation, which took place in the Tamshiyacu Cacao Country State in the Province of Maynas of Loreto Department. After acquiring the Tamshiyacu Country State, a company called Cacao del Perú Norte S.A.C. slashed the area's forest cover in order to carry out agro-forestry cacao cultivation. But it never requested environmental certification from Minagri or authorization to change the land use by Loreto's GORE. After being alerted of this violation, OEFA repeatedly requested information from both Minagri and the GORE about their obligations. In November 2014, while providing technical assistance to Minagri, OEFA discovered that the company was operating without the required environmental management, and so ordered the company to halt activities. Subsequently, OEFA requested information on the controls developed by Minagri in order to verify the compliance with the preventive measure imposed, as well as on environmental controls on other companies related to Cacao del Perú Norte S.A.C. In March 2015, Minagri conducted a special oversight action on the Tamshiyacu Country State, with OEFA and the GORE of Loreto. In this action, OEFA found that Cacao del Perú Norte S.A.C. had not complied with the preventive measure ordered by Minagri and, in addition, was preparing new deforestation actions without authorization. OEFA then requested that Minagri carefully oversee the preventive measure and better communicate to the GORE of Loreto and Serfor about their legal responsibilities. Since then, OEFA continues to followup on the case through oversight actions to Loreto's GORE. Based on this experience, OEFA has intensified its oversight of EIEs, and, as in the mining sector, is stepping up its technical assistance to these entities.

A third area of OEFA oversight is solid waste, defined as substances, products or by-products in solid or semi-solid state that are disposed according to national regulations or their levels of health and environment risk. Solid waste is classified into four types, according to origin. The first is Household waste, generated in domestic activities; the second is Commercial waste from businesses providing goods and services; and the third is Waste generated in construction

and demolition works. The fourth, which has proven to be a growing problem throughout the region, is Hospital waste generated by medical care and research in hospitals, clinics, health centers, and laboratories, among others. Such waste is contaminated with infectious agents or may contain high concentrations of dangerous microorganisms. To control the threat to public health from such waste, the State has developed structures and laws to limit their inefficient management and disposal.

Several EIEs are involved in the management of solid waste, including Provincial Municipalities; Regional Governments (GORE); and the Health Ministry's General Body of Environmental Health (Digesa). Most of this responsibility falls on the GORE, which the General Law of Solid Waste (Law 27314) requires to monitor the proper management of solid waste from municipal sources and health facilities at all stages—collection, transportation, and especially disposal (Organismo de Evaluación y Fiscalización Ambiental (OEFA) 2016a, p. 11). The provincial municipalities, responsible for household and commercial waste, must plan, promote, regulate, approve, authorize, supervise, and sanction aspects regarding municipal waste—above all, by making sure that it gets to landfills. For its part, Digesa approves environmental studies and provides technical opinions for municipal infrastructure projects. Following up on its responsibility to approve environmental certification, Digesa also supervises the implementation of every EIS. In its oversight of the EIEs, in 2015 OEFA made 31 routine supervisions in the Provincial Municipalities of San Martín, Ucayali, Amazonas, Madre de Dios, and Loreto regions and a special supervision in the Provincial Municipality of Maynas. In addition, 226 training actions were carried out that year with provincial and district municipal governments in these provinces. A report on these actions (Organismo de Evaluación y Fiscalización Ambiental (OEFA) 2016b) details fulfillment of 15 environmental components comprising the obligations by provincial municipalities. As Table 4.5 illustrates, all the Amazon regional EIEs have had dismal records on solid waste.

One reason for this failure is beyond their control: nationwide, there are only 12 landfills for a population of over 33 million—an alarming infrastructure deficit. Likewise, 95% of supervised EIEs do not have a treatment plant for organic and inorganic solid waste. The resulting use of alternatives then multiplies waste's environmental harm. Solid waste disposal in open pits, litter incineration, lack of control of leachate, and

Table 4.5 Compliance ranking in the management of solid waste

<i>EIE</i>	<i>Score (up to 20): 2014</i>	<i>Score (up to 20): 2015</i>
Huánuco	3.50	8.00
Loreto (Maynas)	9.00	8.00
Cusco	7.00	7.00
Amazonas (Chachapoyas)	7.50	6.00
Pasco	7.00	6.00
Junín (Pasco)	7.00	6.00
Madre de Dios (Tambopata)	8.00	5.00
San Martín (Moyobamba)	8.00	5.00
Ucayali (Coronel Portillo)	5.00	3.00

Source OEFA

dumping of solid waste in bodies of water all adversely affect the quality of water, air soil, and Peruvians' health. For these reasons, OEFA helps local governments to prioritize the treatment, reuse, and recycling of solid waste; to promote segregation through the differentiated collection of organic and inorganic municipal solid waste; and to adopt technologies that generate energy from solid waste.

Illustrating the challenges involved in such promotion was the “El Treinta” landfill in the province of Maynas, department of Loreto, within the buffer zone of the Protected Natural Area Allpahuayo-Mishana. This landfill was run by the company BRUNNER S.A.C., which was inadequately maintaining solid waste and thus risking the surrounding population's health. Elevating those risks was the EIE's failure to detect these actions, which turned out to be one link in a chain of failure: the Provincial Municipality of Maynas did not comply with monitoring the municipal solid waste management; Digesa did not verify compliance with the obligations stipulated in the approved EIS; and, in turn, the Regional Government of Loreto did not monitor solid waste destined for the landfill. OEFA sent a report to the Peruvian General Comptroller to explain the EIE's failure and help determine applicable penalties.

ENVIRONMENTAL CONTROL OF COMPANIES

In Peru's Amazonía, many companies work in the sectors that OEFA oversees. Among them, the hydrocarbons sector has the largest number of companies operating in the Amazon region (31 companies), followed by the electric sector with 24 companies, the mining sector with 13, the

fishing sector with five, and the industry sector with three. Of all those businesses, those with the greatest environmental impact in the area are those engaged in the exploration, extraction, and transportation of hydrocarbons. In response, OEFA has sharpened its monitoring of these activities, which led it to be directly involved in several major cases.

Case 1: Oil spill in the KM 41 + 833 ONP: On June 30, 2014, Petróleos del Perú S.A.—Petroperú (PETROPERU) reported an environmental emergency from an oil spill at km 39 + 584 of the Norperuano Oil Pipeline. In response, OEFA officials immediately went to the area to verify the magnitude of the impacts. In their first three supervisions, they found a huge amount of dead fish and destroyed vegetation in the vicinity of the pipeline breach. A report was then issued detailing violations related to the spill. Subsequently, Petróleos del Perú S.A.—Petroperú was found responsible, and a corrective measure was ordered to restore the impacted area back to its natural state.

Case 2: Preventive measure for soil removal: There are also cases in which OEFA acts without such an emergency, such as with preventive measures to avoid an imminent danger or high risk of serious harm to the environment, natural resources, and human health, as well as to mitigate the causes of damage that does occur. An example of such measures was during an environmental supervision carried out from March 2 to 7, 2013, in which OEFA documented soil infused with hydrocarbons in the area called “Los Jardines” in the influence area of the Block 1-AB, owned by the Pluspetrol Norte S.A. company. In its soil removal activity, the company was mixing impacted soils with native soils. Such mixing was not approved by any agency, and probably would not be, since it risked spreading contaminated soil into areas larger than those initially impacted. In order to avoid such damage, a Directorial Act that ordered an immediate cessation of soil removal work in “Los Jardines”.

Two additional cases of control over mining and hydrocarbon activities in the Amazon further illustrate the complexity of environmental enforcement in the region, particularly in punishing abuses. One case involves the many forms of illegal mining, which OEFA works to control. Law No. 29325 states that when OEFA obtains reasonable and verifiable proof of non-compliance with the conditions for an activity within the purview of regional governments, it has the power to carry out environmental controls. In utilizing this power, in 2014 OEFA approved the Legal Rules for the application of Article 17 of Law 29325 to allow it

to determine the extent of questionable mining activities and those conducting them. Pursuant to these rules, OEFA may initiate a sanctioning procedure when it obtains reasonable proof that someone is pretending to be a small-scale miner or artisanal miner without certification. Up until 2015, OEFA dictated 23 sanctioning procedures in illegal mining, of which five were in the Amazon region (Madre de Dios, Cusco, Puno, and Huánuco). An example was OEFA's sanction on Yanguang Yi in Puerto Inca, Huánuco, for illegal mining activities. A fine of 498.19 UIT (more than US\$500,000) on Yi was accompanied by a cessation order on activities until full compliance with legal requirements.

Because of the conflict it sparked, a more well-known case was in the basins of the Pastaza, Corrientes, Tigre, and Marañón rivers, in the department of Loreto. In that area are two of the country's biggest oil fields, Block 192 (formerly Block 1-AB) and Block 8. When oil deposits were discovered in the 1970s, Block 192 was given to Occidental Petroleum Corporation (Oxy) and Block 8 to Petróleos of Peru S.A.—Petroperú (PETROPERU). In 2001, Pluspetrol Peru Corporation S.A. entered the area to operate Block 192, and 2 years later the company split into two, leading to formation of Pluspetrol Norte S.A., called Pluspetrol, which was subrogated in the position of transferee in the concession contract, with a clear expiration date of August 29, 2015, for the exploitation of Block 192. The operation of Block 192 by Pluspetrol caused constant environmental complaints by local populations, who began to demand remediation from over 20 years of damage from these oil operations. In 2006, a Supreme Decree established the Complementary Environmental Plan (PAC) for companies carrying out hydrocarbon activities, in order to mitigate environmental impacts unaddressed within the time and under the requirements in the companies' respective Environmental Management Plans (PAMA). The 2005 PAC for Block 1-AB, operated by Pluspetrol, required repair in areas of operation not considered in the 1996 PAMA, which would have to pass government approval, and made the company liable for damages. Through it, Pluspetrol was required to identify previously impacted sites and, subsequently, to remedy the 75 identified sites impacted with hydrocarbons. This PAC was in force until 2009, by when Pluspetrol had to comply with remediation of the 75 identified sites. But because the company did not comply in nine of those sites in time, in 2015 it was forced to submit a Cessation Plan for non-compliance.

Due to the demands of the populations affected by contamination of the four basins, meanwhile, the Multisector Commission attached to the Presidency of the Council of Ministers (Multisector Commission) was formed in 2012 to analyze and propose measures to address the adverse impacts on the area's residents. Through the Multisector Commission, MINAM declared the Pastaza, Tigre, and Corrientes river basins—in particular, areas located within Block 192—to be in a state of environmental emergency. This Commission had two working groups: the Environmental Working Group and the Social Working Group. OEFA was part of the Environmental Working Group implementing the Action Plan for each of the Environmental Emergency Declarations (DEA for its Spanish acronym). In that role, OEFA conducted investigations in the area, identifying 92 impacted sites that had not been included in the Block 192 PAC. A report on the environmental situation of Block 1-AB, operated by Pluspetrol, included results of actions carried out as well as analysis of impacted sites not included in the PAC. OEFA directed the company to immediately remediate these areas through an IGA known as “Abandonment Plan,” a more comprehensive remediation instrument that requires abandoning operations and the concession area to allow for cleaning and environmental remediation. On January 29, 2015, Pluspetrol submitted an Abandonment Plan, but it was rejected for not considering all environmental impacts. In February 2015, the Investigation Office of OEFA's Directorate of Sanctions initiated a sanctioning procedure against Pluspetrol for breaches to environmental regulations and to its own management plan. In 2015, as part of this procedure, the Directorate ordered Pluspetrol to identify all areas impacted by hydrocarbons and to include them in a remediation plan in accordance with environmental regulations. These actions were to be implemented unless the certification authority indicates otherwise in the procedure for the approval of the Abandonment Plan of Block 1-AB.

CONCLUSIONS AND CHALLENGES FOR ENVIRONMENTAL ENFORCEMENT IN THE AMAZON

As detailed above, OEFA is constantly supervising national, regional, and local EIE in the Amazon, in order to verify fulfillment of their environmental control responsibilities. Seeing chronic deficiencies in those responsibilities, OEFA is increasing its technical assistance. After

all, it seeks to avoid being purely coercive, focusing less on reprimanding the EIEs and more on guiding them to perform better over time with cooperative and innovative practices. But the goal of enforcement of standards in the Amazon, by OEFA and others, is a constantly shifting and growing target. One particularly difficult challenge is illegal mining, especially the control of small-scale and artisanal mining overseen by the GORE. In several oversight actions, OEFA noted that most of these EIEs do not initiate sanctioning procedures when noticing failure to comply with environmental obligations. Proposing that OEFA assume environmental control of the small-scale and artisanal mining, the Executive presented Bill No. 3478/2013-PE to strengthen administrative control over facilities that carry out small-scale and artisanal mining activities. It is expected that this Bill will be approved to improve control of the mining sector and thus prevent the informal and illegal activity damaging the Amazon.

Because sustainable development of the Amazon is one of the long-term objectives of Peru's Constitution and National Environmental Policy, a special environmental protection regime has been established for the Basin to promote sustainable use of its resources. With the wide array of those resources, activities affecting each one have their own legal framework and specific authorities. But they are all backed up by a strong environmental institutionalism in the region. Overseeing OEFA and the EIEs, Sinefa's role is thus critical, because it oversees all economic activities impacting the environment. Within this structure, OEFA's work is particularly vital in the control of large extractive activities in the region. OEFA develops the full environmental control process, which includes assessing the impacts of business operations, supervising activities in order to ensure compliance with their environmental obligations, and imposing sanctions in cases of non-compliance. By encouraging voluntary rectification of environmental breaches before reaching the sanctioning procedure, OEFA also promotes timely remediation. It also issues corrective measures as a means to achieve an effective restoration of environmental damage. With these and other functions, such as providing technical assistance to the EIEs, OEFA seeks to strengthen Sinefa—and the country's wider environmental guarantees—through harmonious, coordinated, and effective environmental control by every state agency, over every economic activity, and in every corner of Peru's Amazon.

NOTES

1. The Convention on Biological Diversity (CBD) defines the protected area as a geographically defined area that is designated or regulated and managed to achieve specific conservation objectives.
2. Reserved areas are those that meet the conditions to be considered PNA and require a study to determine their extent and categorization.
3. Study available at: <http://www.minam.gob.pe/mineriailegal/los-efectos-de-la-mineria-ilegal/>.
4. The forests of the “low jungle” cover 43.6%, “high jungle” forests 9.46%, Andean forests 0.17%, and coastal forests 2.86% (Ministry of Environment 2012, p. 98).

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