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Chapter

Deforestation-Free Palm Oil in Honduras: Challenges, Needs, and Opportunities

Flavio Linares

Abstract

Honduras is the third oil palm production country in Latin America region after Colombia and Guatemala. Deforestation of tropical forest has been key issue for market demand and EU countries, especially now that the new EU regulation has been approved to follow due diligence for export products. In this context, in 2017 a multi-stakeholder platform was integrated by Governmental agencies, private and cooperatives of farmers, and federation and civil society organizations to work together in the Volunteer Agreement for Zero Deforestation. The pause of the COVID 19 and the election of the new government in Honduras slowed down the process of the Voluntary Agreement. The progress achieved and the challenges and opportunities of this Agreement are explained step-by-step and constitute a road map to accelerate compliance with the agreement and therefor, the new regulation of the European Union-EUDR. Honduras palm oil growers and industry aspire to genuine sustainability that is inclusive and empowers people to generate prosperity for themselves and their communities, through production systems that are in balance with nature. The author led the multi-stakeholder platform for Zero Deforestation in Honduras and Guatemala too.

Keywords: oil palm deforestation, EUDR regulation, oil palm smallholders, Honduras Volunteer Agreement for Zero Deforestation in oil palm sector, challenges and opportunities in the EUDR compliance, multi stakeholder platform, sustainability, inclusive business

1. Introduction

Palm oil is one of the most popular and widely consumed oils; its versatility and oleo chemistry is found in food products, concentrates, cosmetics, cleaning and sanitation products, detergents, biofuels, vitamins, and so on. Its production efficiency is ten times higher in productivity per area than its closest relative, soybeans. The current global production is 79,464 (1000 MT) [1], and by 2050, it will be 90–156 (1000 MT). Its popularity is reflected by its presence in more than 50% of typical items in supermarkets [2]. In the present decade, deforestation and degradation of soils as well as ecosystems have gained enormous importance in value chains. The loss of forests and their degradation has an impact on the loss of biodiversity and carbon.

The resonance has been greater in consumer countries with increasingly strict regulations and markets with a high appetite for raw materials and, to some extent, due to the commitments in the Nationally Determined Contribution—NDC—of producer countries that present very limited capabilities in secondary transformation. Governance undoubtedly affect the implementation of zero-deforestation policies in each value chain and compliance with the New European Deforestation Regulation, approved in June 2023 [3] for producing and exporting countries that will enter into effective December 30, 2024 (EUDR in English).

For more than a decade, we have observed in several countries, and Honduras is no exception, that the production of palm oil has improved the living standards of many farmers, but it has also been associated with innumerable risks such as deforestation, climate change, the loss of biodiversity, conflicts with the use and possession of the land and labor problems depending on the country, the farmer's associativity, and the configurations of organizations and companies [4].

2. Structure of the oil palm agroindustry in Honduras

Oil palm was introduced to Honduras approximately 100 years ago, beginning with 6.5 ha in 1929 by United Brands-UFcO [5]. According to recent studies, there are currently 202,000 cultivated hectares, mainly on the northern coast, in the departments of Atlántida, Cortés, Colón, and Yoro (**Figure 1**). The impact of hurricanes ETA and IOTA caused the loss of approximately 18,000 ha [6]. In Latin America, Honduras ranks third in the Americas, after Guatemala and Colombia in cultivated area with oil palm (**Figure 2**).

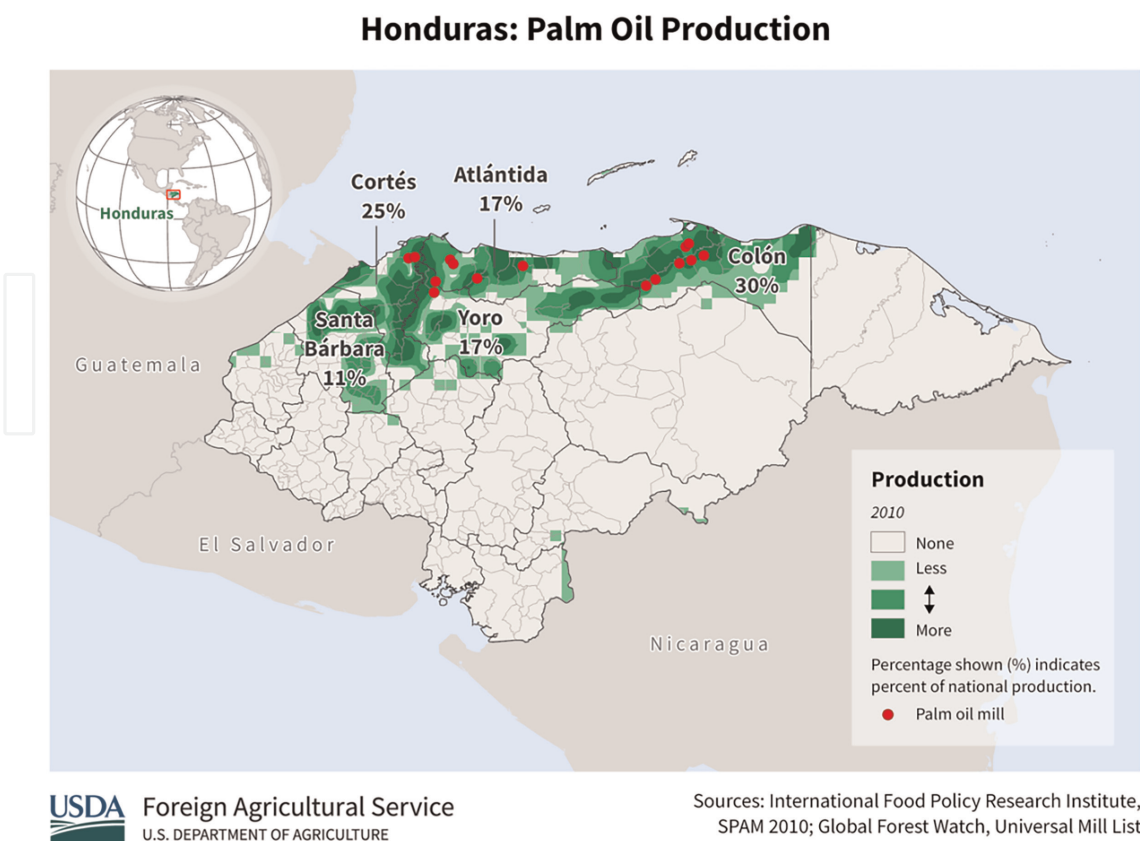


Figure 1.
Oil palm geographic distribution in Honduras.

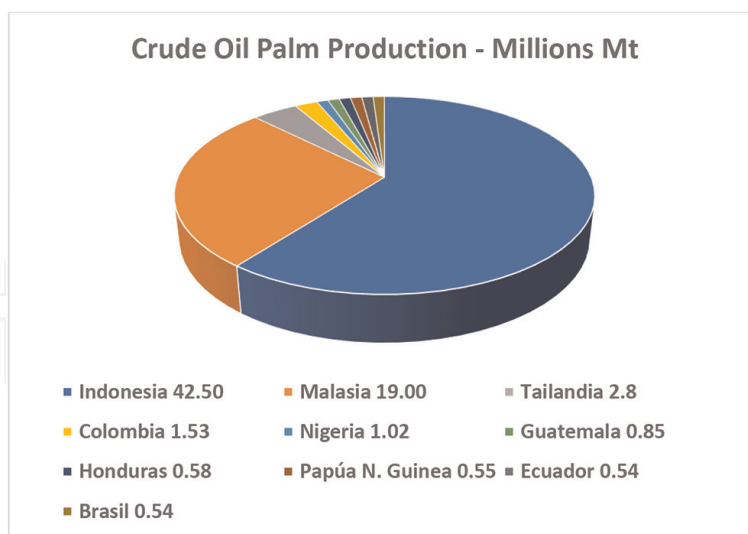


Figure 2.
Honduras in the global top ten of palm oil-producing countries.



Figure 3.
Worker women picking oil palm fresh fruits. HonduCaribe, social company.

Fresh fruit production is concentrated along the Atlantic Coast in the eastern part of the country, with plantations in 41 municipalities. More than 60% of the cultivated area is managed by small producers with extensions ranging from 1 to 25 hectares, so the supply base to the processing plants is in the hands of more than 16,000 small producers. The industry has 15 mills (5 refineries) of which 10 belong to companies in the social sector of the economy (social model based on national law, [7]) and only 5 to private companies. 10% of oil palm farms are managed directly by women and 90% by men.

3. Palm oil, engine of the Honduras national economy

Honduras produced 600,000 MT of palm oil in 2021–2022 [8, 9] with internal consumption of 40%. Globally, it ranks ninth in producing countries (**Figure 2**). The most

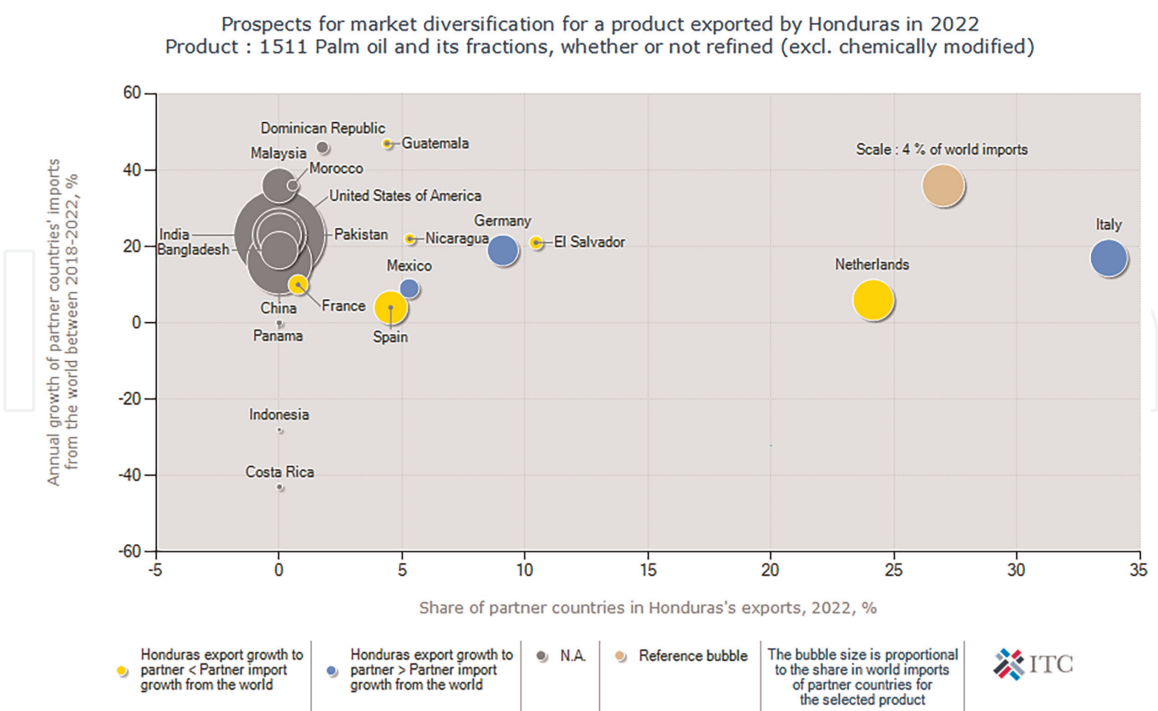


Figure 4. Trading partner countries for the export of palm oil from Honduras (2022).

important destination is the European Union (**Figures 3 and 4**), which received 83 percent of exports in 2022 [10], while the neighboring countries of Central America and Mexico accounted for the rest. With an export value of USD 400 million, the oilseed crop is an essential foreign exchange generator for Honduras, after coffee [11]. It contributes 3% of the GDP and generates around 33,666 direct jobs and more than 168,330 indirect jobs. The demand for certified oil comes from Western countries.

4. Deforestation and environmental degradation associated with oil palm cultivation in Honduras

Honduras has an area of 112,492 square kilometers with a forest cover of 56%. Unfortunately, Honduras has seen a notable loss of forest cover over the years, with high levels of deforestation driven largely by unsustainable agriculture and illegal logging. On top of this, climate-related hazards such as forest fires, pests, and disease, illegal logging, firewood consumption, and land grabbing have also been enormously damaging. It is estimated that from 1990 to 2020, the country lost 9% of its forest coverage [12]. In 2022, 54.4 kha of natural forest were lost, equivalent 29.3 Mt. of CO₂ emissions (Global [13]). From 2002 to 2022, Honduras lost 465,000 ha of primary humid forest, which represents 37% loss of total forest cover in the same period of time. The total area of primary humid forest in Honduras decreased by 22% in this period of time, reports Forest Watch. The protected areas, according to the National Institute of Forest Conservation and Development, Protected Areas and Wildlife—ICF— and Mongabay [14], are being affected by population growth, illegal logging, commercialization of fauna, and planting of monocultures. In the Punta Izopo and Jeanette Kawas national parks, the palm has taken over between 20 and 30% of the protected areas, respectively.

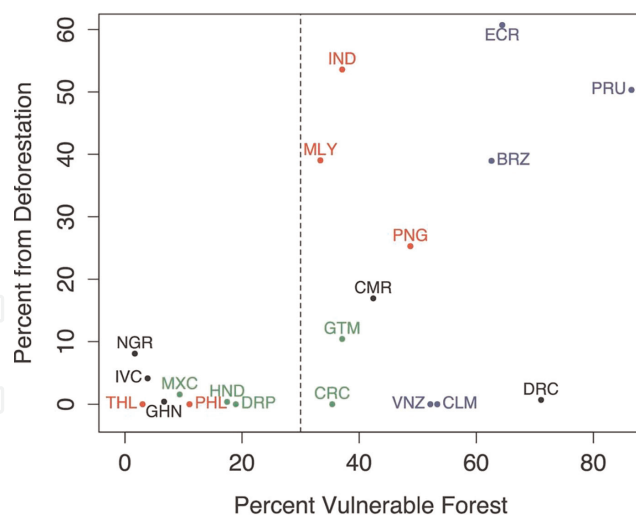


Figure 5. Vulnerability of high conservation value areas to oil palm expansion in palm oil-producing countries. Source: [15].

The Oil palm expansion in Latin America [15] is following a different land-use change trajectory than the widespread deforestation associated with this industry in Southeast Asia. Deforestation associated with palm in the country from 1989 to 2013 is 0.4% according to studies by Vijay et al. [16]. Although is evident the change in land use in Honduras, from bananas (mostly affected by low prices in 2000) or conversion of pastures to oil palm, there is a high vulnerability of protected areas, wetlands, and riparian zones due to spatial expansion of this crop and violations of legal framework. Vulnerability to forests and areas of high conservation value persists with levels of 18% as a consequence of previous deforestation (**Figure 5**).

The environmental foundation PROLANSTATE [17], co-administrator of the national parks Janeth Kawas and Punta Izopo, has alerted citizens to the threats to natural heritage, indicating “the progressive actions of intruders are worrisome, first deforestation and filling of wetlands, then cattle ranching, until they fulfill their ultimate purpose of cultivating oil palm. They drain lagoons, rivers and swamps until they are dry. In some protected areas, the palm was planted before its declaration, however, every year they expand, endangering the core area. In the Punta Izopo and Jeanette Kawas national parks, the African palm has taken over between 20 and 30% of the protected areas, respectively [18].

According to the study carried out by Fundación Solidaridad Latinoamericana (2019) and similar to the studies reported by the ICF, 15,855.22 ha of oil palm are located in buffer zones of protected areas (mainly in Janneth Kawas, Punta Izopo, Punta Sal, and Nombre de Dios) and 129.61 ha in watersheds [19].

In recent years, the Palm Sector has initiated a change of mentality and has listened to the proposal of the Solidaridad experts, in order to invest in vertical growth with high productivity and commitment to the conservation of biodiversity and human rights than to practice a horizontal expansion of the crop (see Solidaridad, Oil Palm Barometer [20]).

5. When the palms speak: Good practices to increase yields per area are key to avoiding expansion

The different Latin American countries show considerable variations in the productivity of palm oil [21]. The highest yield is registered by Guatemala [22] with an



Figure 6.
Salama smallholders cooperative oil palm landscape and riparian zones. Aguan river basin.

average crude oil of 5.6 MT/hectare (ha). In the medium range, Colombia, Costa Rica, Brazil, and Honduras register average yields between 3.4 and 3.0 MT/ha, while Mexico, Peru, and Ecuador register low yields of 2.6 to 2.5 MT/ha. By comparison, Indonesia and Malaysia achieved average yields of 3.6 MT/ha. The yields are influenced by internal factors such as the selection of the planting place, the quality of the genetic material, the seedlings, the age of the plantation, nutrition, maintenance, measurement of growth rates, installed technical capacities (producers or technicians), available resources, and the influence of external factors such as edapho-climatic conditions or recurring climatic variations or as a consequence of climate change.

In countries with a large number of small farmers, there are clear trends, in which lower yields are recorded. The yield of bunches of fresh fruit-RFF in Honduras at the small producer level is 12 MT/ha and 17 MT/ha at the national level (**Figure 6**).

6. Launch of the sustainable production of palm oil project in Honduras (PASH in Spanish)

In the 2013–2017 period, the Solidaridad Foundation implemented the PASH Project with the objective of promoting the adoption of best sustainable environmental, social, labor, and agricultural practices and achieving RSPO certification. One of the most significant results of this effort was the establishment of the Honduran multi-stakeholder consortium PASH, with a very active membership that included more than 90% of the Honduran palm oil industry, as well as local and international civil society organizations, the Ministry of Agriculture and Livestock (SAG), and local municipal authorities of oil palm-producing areas (Ulúa, Aguan, and Chamelecon river basins). The national interpretation of the RSPO standard in the national regulatory framework in 2015 [23] increased capacities of technical teams of key actors and commitments toward the production of certified sustainable palm industrial plants and their supply base. Solidaridad's leadership created frameworks of trust and credibility to guide the Sector toward solid paths of sustainability, closing environmental, social, and productive gaps. Likewise, through professional and expert teams, it provided advice to SAG to support vertical growth rather than horizontal expansion.

7. Management and commitments of the voluntary agreement of zero deforestation of the palm sector of Honduras—AVCD

The Zero Deforestation Voluntary Agreement was generated by the consensual importance of actors in 2017–2018, finalizing its creation in July 2019, with the signature of all interested parties (social and private companies, civil society and state institutions, and the public declaration of commitment [24]. It is the result of the integrated management of the Sustainable Landscape promoted by the Solidaridad Foundation, implementing the baseline of the productive landscape of the northern coast of Honduras. The mapping of the vegetation cover and the main variables that influence or affect the oil palm productive chain deciphered the challenges and the definition of nine interventions aligned to the United Nations Sustainable Development Goals—OSD—(including OSD 15, 13, 2) linked to the protection and conservation of terrestrial ecosystems (**Figures 7 and 8**). The AVCD agreement was ratified by all stakeholders on October, 2021 [25].



Figure 7.
HONDUPALMA mill: Social company responsible for collecting and industrializing fresh fruit bunches from 28 cooperatives of small producers in the supply chain.



Figure 8.
View of CA-13 main road Honduras divided by oil palm plantations: Jaremar Group and Agroindustrial Corporation Group-CORAPSA.



Figure 9.
Smallholders selling oil palm fresh fruits bunches. Baracoa, Cortes, Honduras.

A jurisdictional landscape model was built in which deforestation, soil loss, water and food security, migration, low productivity, investment in renewable energy, and financing for small producers, among others, were highlighted as challenges. In the multi-stakeholder platform, the findings and prioritization of strategic impact investments [26] were shared, as well as individual dialogs with companies and civil society, explaining three management scenarios: 1. Business as usual (BAS business as usual in English), 2. Businesses with certification standards, and 3. Businesses with an integrated Landscape management approach. In scenario 2, workshops and discussion groups were held to accelerate the adoption of the RSPO and ISSC standard by analyzing win-win, company-community-government business models and an analysis for the RSPO jurisdictional certification option.

Since 2013, it is evident that small producers are forced to be more competitive because the requirements of large buyers in terms of quality, reliability in delivery, and product differentiation have raised the level of competition required. The New European Regulation for the import of deforestation-free products-EUDR, [3] will impact the weakest part of the value chain, small producers, who require greater support and technical, financial, and legal assistance (**Figure 9**).

7.1 Methodological framework

- *Governance*: Founded on the principles of dialog, transparency, and goodwill, a multi-stakeholder platform was established to address the economic, social, and environmental importance of the oil palm value chain, taking advantage of Organización Solidaridad's previous links with the different key stakeholders. The individual and collective discussion, and the leadership to guide the Palm Sector to a Sector and Country management, involved dedication, motivation, and empathy, recognizing the representativeness of the parties and the interpretation of their voices to propose a Voluntary Agreement aligned and respecting the regulatory framework of the country as well as the interpretation of market trends toward obtaining palm oil free from deforestation and exploitation or abuse of related human rights. The approach included discussions about the risks associated with environmental, social, and economic issues and the future consequences with possible changes in consumer demand, fines, and sanctions by the government due to the implementation of deficient practices by

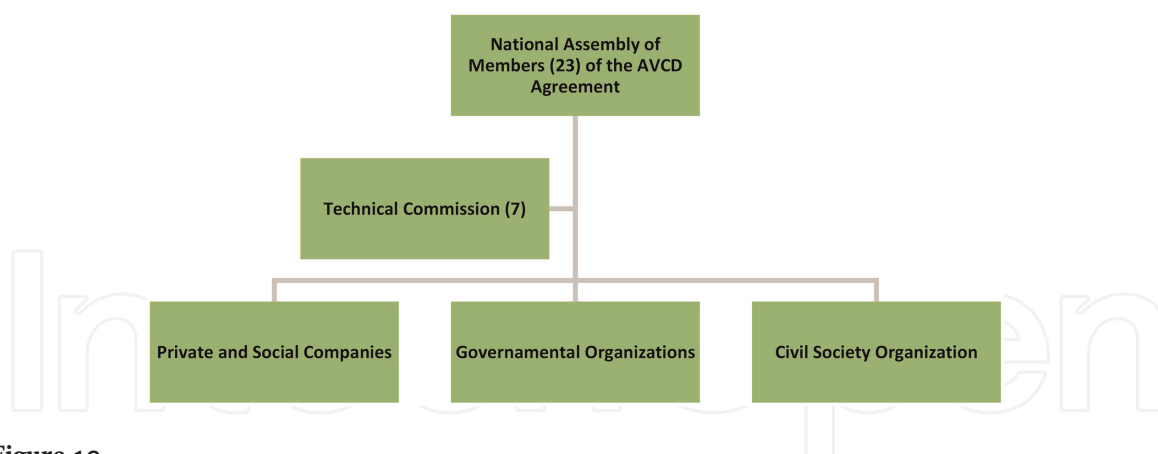


Figure 10. Organizational chart of the technical Commission of the Voluntary Agreement on zero deforestation of the Honduran palm Oil chain.

producers, intermediaries, and plants of benefit. Governance as a mechanism for work and dialog was made possible by the authentic leadership of Solidaridad staff committed to change. Countless face-to-face and team work sessions were key to reaching consensus between the parties, establishing responsibilities and an ad hoc Technical Commission supported through an assembly election process for the entire sector (see **Figure 10**).

Within the framework of the AVCD Agreement, current legislation and market demands for sustainable palm oil, free of deforestation declarations, were considered such as the Declaration of New York 2014 [27], Amsterdam [28], the buyer's policies No Deforestation, and No burning and No exploitation of communities and workers—NDPE.

The Technical Commission has played a crucial role in the implementation of the AVCD Agreement in response to the mandate established in the Assembly of the companies and governmental and nongovernmental organizations that sign the Agreement. Peter Ducker's phrase "*The best way to predict the future is to create it*" was introduced by Flavio Linares to facilitate and motivate consortium partners and the Technical Commission members.

- *Role of the Technical Commission of the AVCD Agreement:* It is responsible for reviewing, planning, operating, communicating, and socializing the lines of action of the Agreement, using local resources and the experience of Solidaridad Foundation. Fostering due diligence for the geolocation of the oil palm plantations of small, medium and large producers. Analyze of land titles types, history of the crop and the farm, genetic materials, and so on. Request financial resources that can be contributed by donors, market corporations, farmers cooperatives, private and social companies and the government.
- In an assembly of the entire palm sector that signed the AVCD Agreement, the permanent Technical Commission was established by mandate, made up of: FENAPALMAH (Presidency), HONDUPALMA (Vice Presidency), ICF (Secretary), PROLANSTATE Foundation (Vocal Prosecutor I), FUCSA Foundation, SOLIDARIDAD (Treasury and Communication), AND ASAPALSA (Member II).

- Objectives of the AVCD agreement
 - Ensure environmental conservation for present and future generations
 - Demonstrate the traceability of deforestation-free palm oil production in all processing companies in Honduras
 - Establish a verification system for the Zero Deforestation process associated with oil palm with a robust monitoring and follow-up system.
 - Provide differentiated export products, generating trust among customers, mainly in the European market.
- Data collection, information organization, georeferencing, and verification in the Forest Information and Monitoring System—SIGMOF.

The technical Commission, in accordance with the strategy shared in the Assembly of the signatories of the agreement, establishes the steps for the organization of information, analysis, and monitoring using the SIGMOF system, which is the tool used by the ICF Institute for monitoring deforestation, reforestation, and monitoring and control of forest fires in the Republic of Honduras.

A database of each company in the social sector of the economy, private, associations, and cooperatives of producers, was prepared and socialized by the Technical Commission. All the technical teams of the production units, including the members of the National Federation of African Palm Associations of Honduras—FENAPALMAH—were trained on the SIGMOF platform and the information required to upload it to the digital system. Each organization has an access code to the SIGMOF system, protecting the information and data based on strategy shared with all companies and interested parties (see **Figures 11** and **12**).

The strategy focuses on four phases:

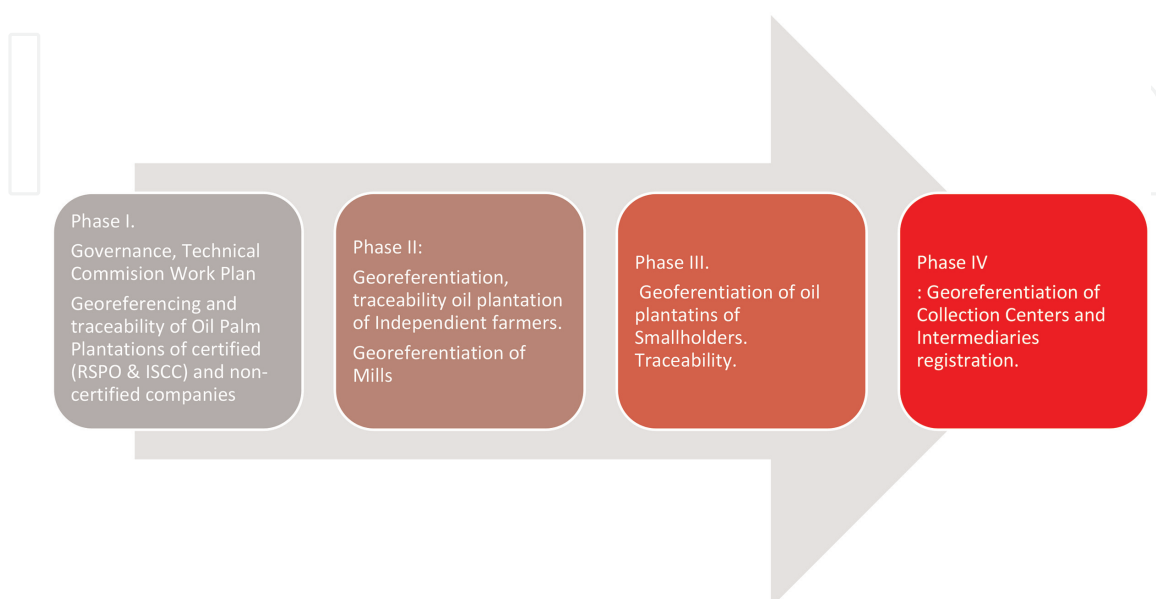


Figure 11.
Strategy and phases to get information from smallholders and companies.

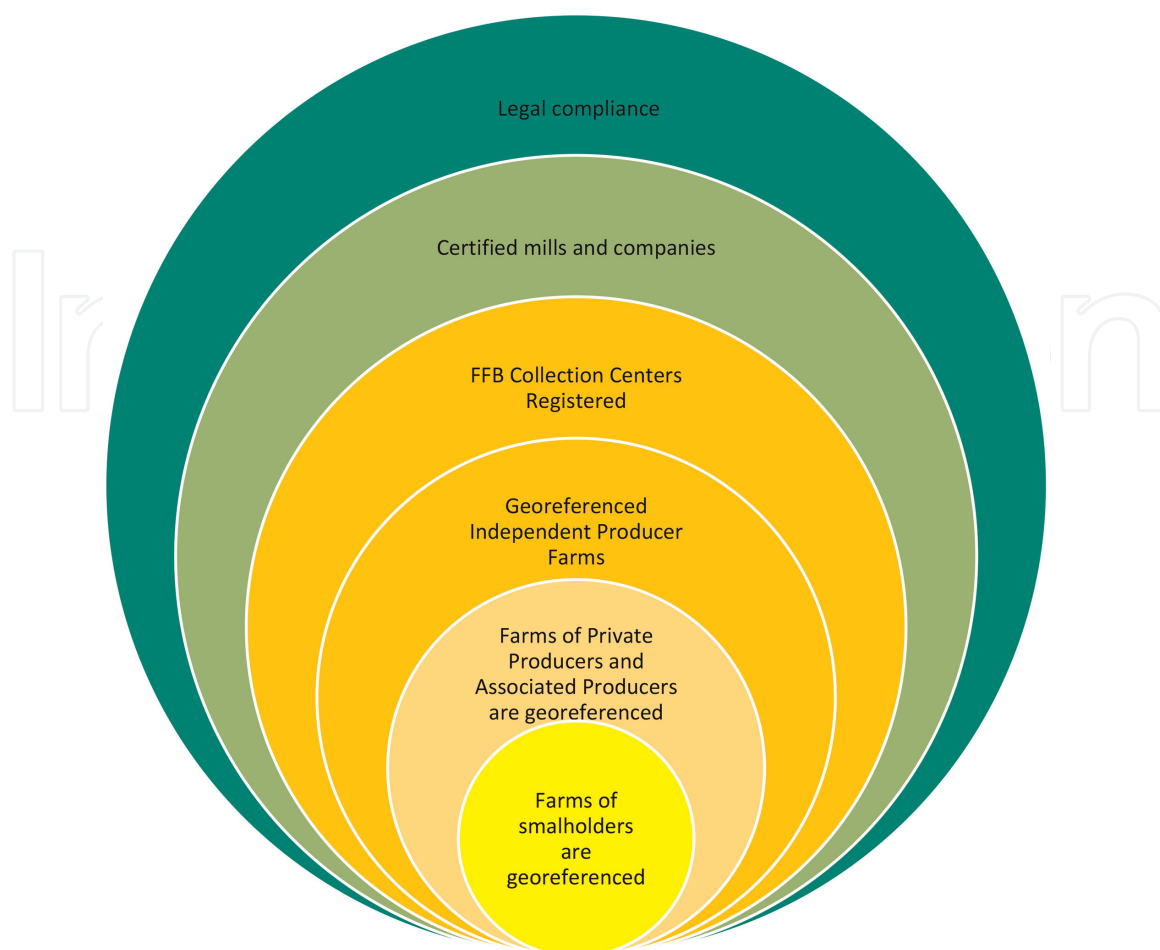


Figure 12.
Work blocks based on the strategy of the AVCD agreement.

a. Benefits of the AVCD agreement

- Contributes tangibly to compliance with the New European Regulation launched in May 2023 by ensuring the conservation of natural resources, producing differentiated palm oil that generates trust in customers in the global market, the traceability of fresh fruit, and the implementation of a compensation system for deforested areas or loss of forest cover.
 - The AVCD Agreement generates inclusive benefits and market opening, financing opportunity, and actions toward the conservation and protection of natural capital, continuous improvement in sustainability processes, job creation, and contribution to the improvement of the livelihoods of the small, medium, and large producers in the palm oil value chain [29].
 - Strengthens the internal control system of the supply base of the processing plants and the strategic investment plans to implement international certification schemes and compliance with national and international regulations.
 - Generates positive synergy and integration of the palm sector with shared responsibility to implement integral solutions in its implementation.

- Contributes directly to the sustainability of the value chain and generation of job opportunities by reducing the irregular migration of Hondurans to the United States of America.

7.2 Results of the AVCD agreement and influence of external factors

7.2.1 Progress results

- Functional governance through the Technical Commission balanced with interested parties.
- Road map for the implementation of the Agreement with iterative phases: Governance, registration, and verification of plantations (social and private companies, independent producers), registration of plantations of small producers, fruit traceability, and registration of intermediaries.
- Definition and structure of the baseline socialized with key stakeholders
- Generation and implementation of monitoring system
- Training of 100% of the companies on the SIGMOF system tool
- 60,000 georeferenced hectares linked to the Information System for Forest Management and Monitoring (SIGMOF), equivalent to 46% of all companies and sustained work in 54% of the rest of the companies.
- Traceability formats and bases for the digital application
- Communication and high collaboration of social and private companies, the National Federation of African Palm Associations of Honduras (FENAPALMAH), environmental and social NGOs, and binding institutions
- Credibility in the system and the broad support of the ministries, the National Institute for Forest Conservation and Development (ICF), Mi Ambiente, and the Secretariat of Agriculture and Livestock (SAG).
- Identification of oil palm plantations in buffer zones and/or protected areas.

7.2.2 External factors

1. Covid 19 Pandemic: The impact of the pandemic in Honduras caused a long pause in the management of the AVCD Agreement due to the protection and control measures established by the government and those implemented by each company and producer cooperative. The physical meetings of the Technical Commission were suppressed and virtual meetings began.
2. Hurricanes ETA and IOTA: In October and November, two meteorological phenomena impacted the north coast, causing historic floods and the loss of 18,000 ha of oil palm and more than 1800 ha of bananas [30], destruction of roads, productive and economic infrastructure with damage around of 0.8



Figure 13.
 Fresh fruit transportation system used by smallholders.

percentage points in the national GDP for 2020 and 0.3 percentage points in 2021 [6]. The rehabilitation of planning and industry required more than 6 months, and it was necessary to negotiate with financial organizations and future markets, rescheduling deliveries of crude palm oil. The livelihoods of the rural population of the north coast were devastated by this climatic shock, which caused a pause to the meetings on the AVCD agreement.

3. Conflicts due to invasions of productive units. As of 2022, the agrarian conflict increased and around 21,000 ha productive areas have been invaded by various groups. 80% of this area corresponds to oil palm plantations according to a report from the Honduran Council of Private Enterprise [31].
4. Changes in government authorities 2022. Government agencies that are binding to the AVCD agreement have undergone transition processes and appointments in the different dependencies with long pauses to learn about and accelerate the Agreement according to signed commitments (**Figure 13**).

7.3 Identified barriers to compliance with the AVCD agreement

See **Table 1**. Summary of barriers for the compliance of Voluntary Zero Deforestation Agreement in the oil palm value chain in Honduran (AVCD is Spanish).

No.	Activities	Barriers	Description
1	Establishment of goals to comply with the Zero Deforestation Agreement	Oil palm companies have not shared the goals of the AVCD Agreement with their supply base or fresh fruit buyers except for four RSPO member companies	Establishment and adequate publication of annual and consolidated goals with the supply base of fresh fruit, highlighting the importance of the agreement in the production and commercialization of palm oil
2	Georeferencing of own palm oil farms of private	Georeferenced and mapped farms. Five companies must	The technical staff of all the companies have been trained on how to order the

No.	Activities	Barriers	Description
	and social companies with legal documentation and provision of information to the SIGMOF system (Forest Information and Monitoring System)	upload the information to the SIGMOF Monitoring and Evaluation system	information and upload it to the SIGMOF system. It will require a reinforcement in the knowledge given to changes of personnel in the companies.
3	“Zero-deforestation Policies” must be socialized in the fresh fruit bunch (FFB) supply chain.	Few companies have Zero Deforestation policies; others require improvements in line with the signed Zero Deforestation Agreement, the NDPE policy for buyers, and the new European Union regulations	Zero deforestation policies must be updated and disclosed to all staff and to fresh fruit suppliers and stakeholders in an appropriate manner.
4	Analysis of business risks associated with deforestation or degradation of ecosystems	There is risk analysis in companies certified with the RSPO, ISCC, RA standards. However, at the level of groups or small holders’ cooperatives, there is no risk analysis and possibly no information on the commitments acquired by palm oil mills.	The risk analysis matrix must be part of the annual operating plan of the mills, companies, and smallholders cooperatives. Mills must publish the risks incurred when acquiring fresh fruit bunches from dubious origin; in the same way, smallholders and independent producers must understand the Zero Deforestation Agreement signed by companies, FENAPALMAH members, and so forth as an essential part for the business to be sustainable.
5	Strengthen the Collection Centers for fresh fruit bunches free of deforestation	Absence of education and training programs for those in charge of the Collection Centers for fresh fruit bunches on the sustainability of the oil palm	Companies and mills should invest in education programs emphasizing the sustainability pillars, especially the importance of acquiring FFB with transparency, free from deforestation or from areas unsuitable for cultivation (i.e., areas with slopes greater than 30 degrees)
6	Land-use change evaluation studies—LUCA—by company from the year established in the zero-deforestation agreement AVCD: 2010	The companies (4) certified with the RSPO standard have compensation plans approved by RSPO for their own plantations, while the remaining (11) have not done the LUCA studies. This includes producers in the supply base	The evaluation of land-use change—LUCA—is essential to ensure the location of the farms planted with oil palm and the history of land-use change. Companies must invest in LUCA and share them with the Technical Commission.
7	Update to companies on national regulation and certification standards demanded by the market	There are staff from companies and Producer Associations with limited knowledge of national laws and regulations, RSPO, RA, ISCC certification schemes.	Training program on the National Interpretation of the RSPO standard approved for Honduras by the RSPO Board of Governors in July 2022. Train companies and producers on the business plan to aspire to RSPO Certification. Road map for the implementation of closing certification gaps and external audits where appropriate.

No.	Activities	Barriers	Description
8	Update to companies on the new European Regulation for the importation of palm oil and its deforestation-free derivatives	On June 2023, the European Parliament approved the Regulation on deforestation-free products, which includes palm oil, beef, timber, coffee, cocoa, rubber, and soy. The rules will also apply to a number of derived products, including selected palm oil-based derivatives (used, for example, as components in personal care products), with a review to take place in 2 years to see whether other products should be covered	The due diligence on the origin of the fresh fruit bunches and their processing by the extracting companies that export to the European Union must be documented, especially the RSPO certified product with Mass Balance. Products without documentation and due diligence will not be accepted in the European market due to lack of transparency. It is urgent to integrate the New European Regulation into the strategic plans and annual plans of companies and cooperatives of small, medium and large producers as well as in the work plans of intermediaries and administrators of FFB collection centers.
9	Internal Control System-ICS for production system in the fields, mills and refineries.	Companies certified by international standards (RSPO, ISCC, RA) have an ICS that is reviewed annually. The auditors must consider the national interpretation document of the RSPO standard for Honduras, which includes the legal and international framework and the commitments signed in the Zero Deforestation Voluntary Agreement.	Participatory ICS, definition of responsibilities and budget allocation. Include in the system the managers of the Collection Centers, fresh fruit transporters, leaders of groups of producers (small, medium and large). Share the ICS with the state organizations that sign the agreement
10	Traceability of the origin of the fresh fruit bunches	The Technical Commission has structured a system for use by the signatories of the Agreement. You have reviewed two digital traceability tools. It remains to socialize and adjust the tools depending on the type of provider.	Define the cost of using the tools and advice to companies and smallholders.
11	Land ownership or oil palm farms	Due diligence in land ownership requires: a. Review of the documentation available by the Producer and analysis of the property by the regulatory entity (INA, Property Institute) and b. In special cases of palm in buffer zones or core zones, the competence corresponds to the ICF.	Provide training to small, medium and large producers regarding land legalization protocol prepared by the National Agrarian Institute (INA) and Solidaridad Network (supported by RSPO). Get financial resources to support INA personnel to verify all oil palm plantations locations.
12	Incentives for Producers: Small, medium and large	Limited financial and economic incentives for producers	Most companies punish growers for poor-quality fresh fruit bunches but not for transparency and good quality. It is

No.	Activities	Barriers	Description
			normal that loans are given for the purchase of fertilizers or harvest advances, but not technical assistance that includes the issue of transparency of the origin of the FFB. Engage traders and corporate buyers of sustainable palm oil willing to provide incentives for producers in adherence to their NDPE policies and beyond certification
13	Financing for compliance with the AVCD Agreement and operation of the Technical Commission	The Technical Commission works <i>ad honorem</i> with a minimum contribution from the companies. It is necessary that the signatory companies of the agreement contribute resources to finance the signed Agreement and therefore the activities defined in the Budget prepared by the Technical Commission	The Technical Commission has worked hard on a voluntary basis, led by Solidaridad. Economic resources are required to comply with the activities of the Commission and those included in the operating plan defined in the Agreement.
14	Monitoring, Verification, and Reporting System	Review and implement a monitoring and reporting system with evidence that reflects the commitment acquired by the parties that signed the Agreement	Standardize the monitoring, verification, and reporting system at the company level.
15	Communication and public disclosure.	Establish the communication strategy, highlighting the importance of the conservation of natural resources and legal compliance with no deforestation and degradation of natural resources.	Focus communication on two key audiences: Producers of fresh fruit bunches and corporate markets that encourage their active involvement in operations.

Table 1.
Barriers to compliance of the AVCD agreement.

7.4 Opportunities to complement EUDR with the AVCD agreement

See **Table 2.** Summary of opportunities to complement EUDR regulation by the AVCD agreement.

No.	Key actors	Activities	Opportunities
1	Mills and smallholders' cooperatives and independent producers	Establishment of goals to comply with the Zero Deforestation Agreement—AVCD	<ul style="list-style-type: none"> a. The goals of the companies and producer cooperatives will be aligned with the objectives of the Agreement b. Publish and socialize the targets with the supply base

No.	Key actors	Activities	Opportunities
			and stakeholders in appropriate language and through effective means
2	Mills and smallholders' cooperatives and independent producers	Georeferencing and maps of oil palm farms with the respective legal documentation	<ul style="list-style-type: none"> a. Verifying location information and legal documentation will enable transparency and trust in oil palm operations b. Establish strategic alliances with INA, ICF, SAG, NGOs
3	Mills, Smallholders' Cooperatives, Technical Commission of the Agreement, Policy advisors.	Zero Deforestation Policies in the supply chain of fresh fruit bunches	<ul style="list-style-type: none"> a. Highlight the importance of the Zero Deforestation commitment with clear policies and known by all producers at the level of each organized group, private companies, and the social sector of the economy b. Align the zero-deforestation policy with the policies of palm oil traders (NDPE) and the New European Regulation
4	Mills, Smallholders' Cooperatives, Technical Commission of the Agreement, Policy advisors.	Analysis of business risks associated with deforestation or degradation of ecosystems	<ul style="list-style-type: none"> a. Evaluate the risks with the participation of producers, Boards of Directors of Producer Cooperatives, and binding government agencies. b. Train on risk analysis methodologies and its action plan. c. Complement if possible with satellite images from other sources/verify the findings in the field.
5	Mills, Companies, and Smallholders' Cooperatives	Responsible collection centers using tools for the documentation of FFB from farmers	<ul style="list-style-type: none"> a. Optimize the collection of information from fresh fruit suppliers b. Keep reliable records of the origin of the fruit (volume and quality) c. Correlate the volume of FFB with the good practices management
6	Companies and Smallholders Cooperatives, ICF, SAG, MI AMBIENTE, Municipalities	Evaluation of land-use change—LUCA—by company/producers from the year 2010 approved and established in the Zero Deforestation Agreement	<ul style="list-style-type: none"> a. Demonstrate with evidence the change in land use to oil palm. b. Use technical support tools
7	Mills, Companies and Smallholders' Cooperatives	Establish the areas deforested by company or group of producers to define the compensation areas	Socialize the compensation area with government agencies and purchasers of palm oil as well as with certification bodies.

No.	Key actors	Activities	Opportunities
		according to the certification standard or national regulation	
8	Companies and smallholders' cooperatives, Technical Commission, RSPO, ISCC	Update on national regulation and certification standards required by the market	<ul style="list-style-type: none"> a. Increase the capacities of companies and producers, key government organizations, and civil society on the most demanded certification standards in the market. b. Accompany or advise extracting companies and producers on good practices of international standards
9	Companies, mills and smallholders cooperatives, Technical Commission, Palm oil buyers, donors	Traceability of the origin of the bunches of fresh fruit	<ul style="list-style-type: none"> a. Provide reliable and credible evidence using robust tools. b. Do pilot tests of the digital tools and database tables and the required adjustments c. Share fruit traceability results with palm oil buyers, government organizations
10	Companies, mills Smallholders cooperatives, Technical Commission, Buyers of palm oil, INA, ICF	Land ownership or oil palm farms	Socialize and train producers on good practices and the INA Land Regularization Protocol in order to advise owners.

Table 2.
Opportunities to promote zero deforestation in oil palm under the AVCD agreement.

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