

# Document of Forest Origin (DFO) and its Relevance in Civil Construction

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**Abstract**— Studies show that deforestation in the country has advanced in recent years and the sustainable use of forest resources has become increasingly necessary. Brazil is the second largest when it comes to vegetation cover in the world, but it is one that has a higher rate of deforestation. Deforestation has consequences for the environment and society, such as greenhouse gas emissions, disintegration of traditional populations, pollution, destruction of protected areas, among others. To prevent rampant deforestation from reaching the native forest regions and control deforestation, Brazil has created a mechanism called the Forest Origin Document (DFO) that monitors them from extraction to final consumption. This article aims to relate the exploitation of native wood with a state procedure can regularize illegalities to avoid deforestation, bring more clarity of procedures and tools in a simple way for a better understanding of companies that need the timber system, regarding the emission of DFO.

**Keywords**— deforestation, native a forest and sustainable use.

## I. INTRODUCTION

Wood is a material produced from the woody part of the tree and formed by cellulose fibers and vessels conducting raw sap. The trees that produce wood are long-lasting and woody, characterized by the presence of logs. The diversity of wood is quite comprehensive, and its characteristics vary in density, resistance to decay and fire, among others. These differences determine the use of wood in each case. Wood is a widely used input due to its wide variety of applications, such as in construction, furniture making, among others. However, the rate of deforestation in Brazil is still a major threat to forests. Even with environmental agencies working and the relevant legislation on the subject, deforestation is still an obstacle for the Brazilian forest administration. To prevent the exploitation of wood from being predatory, impacting the environment, the Ministry of the Environment (ME) has instituted a mandatory license, DFO, for the extraction, transportation, and sale of native forest raw material. [2], [4], [5].

DFO was created by Ordinance No. 253, August 18th, 2006 [4], that defined it, in its Article 1, as:

§ 1 DFO is the mandatory license for the transport and storage of forest products and by-products of native origin, containing information on the origin of these products, generated by the electronic system called System-DFO.

DFO aims at the sustainable ecological traceability of native species forests by monitoring transport and storage through an electronic system. This system requires a series of data to track from the sale to the final consumption of the product. All people involved in the process are registered in the IBAMA system, and this contributes to users using wood of legal and sustainable origin. The trees are identified with a code by the forestry concessionaire, and that same code follows the wood to its destination. This makes it possible, through a system that brings all location information about the respective wood, to verify the legality and origin of the wood. This consultation can be made through the IBAMA website, and whoever is

consulting needs to know the DFO issuing body and the control code. [1], [8], [16], [20].

In civil construction, wood is widely used either as a building or decoration component. If the wood used in the construction is of native origin, the construction company must follow all legal procedures required by Organs inspection agencies. This article, based on a bibliographic reference analysis, aims to simplify the information regarding the issuance of the DFO, so that companies that have difficulties in adopting the procedure in a legal and correct way can understand, in a lean way, how to proceed in activities involving native wood. The DFO system is a way to control the input from the extraction to the lumber and from the lumber to the destination, be it use or disposal. DFO is a procedure for traceability and guarantee of legal wood. [6], [11], [12], [13], [15].

## II. DOCUMENT OF FOREST ORIGIN (DFO)

The DFO System, created by the Brazilian Institute of the Environment and Renewable Natural Resources (IBAMA), is primarily responsible for controlling the movement of native forest inputs. This system reduced the falsification of papers used for illegal removal of native inputs from forests, and after improvements to the tool, citizens can access data with complete transparency and help control the entire wood production chain. Only some products need DFO emission, such as the raw forest product that is the one in the fresh state, the processed forest product that has been manipulated, live plants and essential oils originating from the flora. [7], [8], [9], [13].

Access to the DFO requires that the individual or legal entity has:

Type A3 digital certificate, is registered in the Federal Technical Register of Potentially Polluting Activities and/or Users of Environmental Resources (CTF/APP) and has declared at least one activity relevant to the DFO and is in a regular situation with IBAMA. [7], [16].

### DFO Issuance

According to Ordinance No. 253, of August 18, 2006 (ME), forest products and by-products of native origin require the issuance of DFO. [4]. Are they:

#### I. Forest product (found in the raw or in natural state):

- Wood logs.
- Shoring.
- Plump platforms.
- Sleepers in the extraction / supply phases.
- Stakes and fence posts.

- chips and splinters.
- Planks unfolded with chainsaw.
- Block or fillet, log in polygonal format, obtained from the removal of coastal.
- Firewood.
- Heart of palm.
- Xaxim.
- Essential oils.

#### II. Forest by-product (one that has undergone manipulation):

- Lumber in any form, laminated, and cut.
- Wood industry residues (shavings, coastal, chips and other wood processing and industrialization residues) when destined for the manufacture of coal.
- Sleepers and posts in the exit phase of the industry.
- Coal from wood industry residues.
- Packaged native charcoal, in the post-exploration and production phase; and
- Xaxim and its artifacts in the phase of leaving the industry.

On the other hand, not all woods need this license, some species, such as products and by-products of exotic origin, do not need to be traced. Some examples of woods that do not need DFO emission are:

- Finished and packaged by-products such as: door, ceilings, agglomerated sheets, cushioned or plywood door, window, industrialized composite floors, furniture, agglomerated, pressed, plywood and fiber sheets.
- Pine and Eucalyptus.
- Cellulose, gum-resin and other wood pastes.
- Vegetation planted for any purpose.
- Charcoal.
- Native forest products of exploitation in rural property and the use is integral in the same property.
- Bamboo and related species.
- Exsiccate for scientific research.
- Live plants of Brazilian native forest not threatened with extinction.
- Woody material for urban pruning.

- Sawdust, wooden toys and pallets, straw and palm fibers, leaves, leaves of planted essences, bark, and coal from coconut shell, mill and charcoal toys.

### Types of DFO

Special DFO: issued when the forest product is subject to a Special Authorization.

Retail trade DFO: when the activity of individuals or legal entities does not require registration with CTF in the forest control category.

Export or Import DFO: when the product of native origin is subject to commercialization.

The individual or legal entity that wants to obtain the DFO must be registered in the Federal Technical Register of Activities Potentially and / or Users of Environmental Resources (CTF/APP) and declare at least one activity related to the DFO, be with a valid Certificate of Regularity and in regular situation with IBAMA and mandatory Type A3 digital certificate. The A3 digital certificate is acquired through purchase, and encryption is done in a different way from others, and thus offers more information security. It is available in a token or card version generated by an encrypted key pair, which can be used on any computer, but not at the same time. This certificate is valid for 1 to 3 years and is a safe and increasingly used choice. CTF is regulated by Law 6938/81, which defined it as: Art. 17. The following is instituted, under the administration of the Brazilian Institute of the Environment and Renewable Natural Resources - IBAMA: Federal Technical Register of Potentially Polluting Activities or Users of Environmental Resources, for mandatory registration of natural or legal persons engaged in potentially polluting activities and/or the extraction, production, transport and commercialization of products potentially dangerous to the environment, as well as well as fauna and flora products and by-products. Individuals or legal entities that carry out activities subject to environmental control and inspection are required to register with the CTF/APP. This register identifies the person in the National Environmental System (SISNAMA) and generates information for the Brazilian environmental administration. The registration is done by the person himself, according to Table 1. [7], [16], [19], [20].

Table 1 - DFO activity in CTF

Category	Code	Description - Normative Instruction IBAMA nº11/2018
Wood industry	7-1	Sawmill and wood split
	7-2	Wood preservation
	7-3	Manufacture of sheets,

		chipboard, pressed and plywood
	7-4	Manufacture of wooden and furniture structures
Uso de Recursos Naturais	20-2	Economic exploitation of wood or firewood and forest by-products
	20-22	Import or export of native Brazilian flora
	20-60	Silviculture - Law No. 12,651 / 2012: art. 35, §§ 1st, 3rd
	20-61	Forestry - Law
	20-63	nº 12.651 / 2012: art. 35, § 1º
Atividades sujeitas a controle e fiscalização ambiental não relacionadas no Anexo VIII da Lei nº 6.938/19	21-48	Industrial consumption of wood, firewood, and charcoal - Law nº 12.651 / 2012: art.34
	21-49	
	21-50	Transport of forest products - Law No. 12,651 / 2012: art. 36
	21-67	Storage of forest products - Law nº 12.651 / 2012: art. 35, § 2
	21-68	Wholesale trade of wood, firewood, and other forest products -Law nº 12.651 / 2012: art. 37

Source: Normative Instruction No. 11/2018

If these conditions are accepted, the DFO is issued electronically and filled out by the user according to instructions present in the IBAMA system and accompanies the product from its origin to its destination. Environmental control and inspection fee (TCFA) Companies that carry out polluting activities or that use natural resources need to make the quarterly payment of the TCFA. This fee is a kind of tax to control and inspect these activities. TCFA is regulated by Law 6938/81: Art. 17-B. The Environmental Control and Inspection Fee - TCFA is hereby established, the operative fact of which is the regular exercise of police power conferred to the Brazilian Institute for the Environment and Renewable Natural Resources - IBAMA to control and inspect potentially polluting activities and users of natural resources. At the time of enrollment in the CTF/APP, the person selects an option in the Activity Table, after this enrollment the TCFA is automatically generated and it is up to the payer to issue the Union Collection Guide and pay every three months. The TCFA value varies according to two criteria, economic size and Polluting Potential and

User of Natural Resources (PPGU). The criteria (Table 2) are defined in Law 6938/81. [17], [19].

Table 2 - TCFA values

Porte PPGU	Perso n	Micro enterpri se	Small busine ss	Mediu m- sized compa ny	Large- sized compa ny
(R\$)					
Small	Free	Free	289.84	579.68	1159.35
Mediu m	Free	Free	643.74	927.48	2318.69
High	Free	R\$128,00	579.67	1159.35	5796.73

Source: Law 6938/81

This work had its development carried out through scientific research that took other scientific articles, monographs, dissertations, and norms as a basis, to give legal validity to address the subject in question. These searches were carried out during the months of July 2019 until May 2020. The process of collecting the data that was found in these files and, after that, the analysis of them to find out if they were coherent with each other, was carried out through searches.

It is recommended that, before starting the work, if there is provision to use hardwood, every company that needs to buy or sell wood of native origin must be registered with the CTF / APP and this register must be active, have an environmental license and a registered yard IBAMA and approved by Inea. If the construction is only expected to use pine and eucalyptus, these procedures are not necessary because they are reforestation wood and not hardwood. [1], [3], [6], [9].

In the purchase process, the company responsible for the work goes to the lumber company, verifies that it has a record and is authorized to issue DFO in the IBAMA system, requests the purchase of the necessary quantity of wood. After this procedure, the timber company issues a DFO in the IBAMA system with all the information about the wood, the respective quantity requested and the requesting company. Subsequently, it is the company's turn to buy access to IBAMA's system and accept the DFO issuance, if true, the information from the lumber company. The person responsible for transporting the product in this case is the lumber company, which does so with the DFO throughout the journey. Right after the

delivery of the wood, the applicant confirms the DFO and the wood received in the IBAMA system. If the construction is only expected to use pine and eucalyptus, these procedures are not necessary because they are reforestation wood and not hardwood. [1], [6], [11], [13].

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It is advisable for a construction company to have someone responsible for checking product entries and downloads in the yard, because the yard balance registered with the responsible agency must be the same physical balance. As to use or enter the wood, the yard's balance must be updated in IBAMA's control system. A scrap of wood from the work also needs DFO, in this case, whoever issues the DFO is a construction company and who accepts the receipt and issue of the DFO is a company that executes or discards. A company that discarded a wood must have a yard registered and approved by Organs competent bodies. If a construction has removed a tree, it will be necessary to issue a special or qualified DFO after an environmental plant suppression license. Although the DFO is well structured, there are risks that cause fraud in the registry, due to the lack of standardization of security procedures and human interference in the process. According to the Federal Audit Court (TCU), there are flaws in the communication of the DFO system with state systems. "As the following inconsistencies in the system's databases were detected by crossing data from IBAMA systems with other public administration systems (IRS and DENATRAN) using the Audit Command Language (ACL) software: a) 11000 companies registered in the DFO with divergent size registered with the Federal Revenue, generating a direct impact on the collection of the Environmental Control and Inspection Fee (TCFA), which is used in functions of the company's size, resulting in a loss of collection greater than 390 thousand reais per year. These companies being moved to data extraction data above R\$ 2 billion in forest products, with the use of



DFOs. b) 4 companies whose CNPJ is not included in the revenue base issued by DFOs, moving more than 700 thousand reais in forest products. c) 90 companies in an irregular situation in the moved revenue, compared to DFOs, more than R\$ 480 thousand in products. d) 270,618 DFOs, worth no more than R\$ 2 billion, with irregularities in relation to the registration of the vehicle responsible for transporting forest products in relation to the records of the DENATRAN system." Also, according to the TCU, there are flaws in the organization of environmental and equipment taxes. TCU also made recommendations to IBAMA for adjustment or DFO system based on international IT security standards. [14], [15], [16], [18], [20].

### III. CONCLUSIONS

Thus, environmental inspection is necessary so that, through coercion or sanction or other means permitted by law, society's behavior is adapted to legislation and habits are changed in relation to Environmental awareness. With proper application and inspection, the DFO System is a tool that proves to be suitable for controlling native wood. Allied to this system, to ensure greater effectiveness, the integration, with better communication, between the state systems and the DFO System must be made, inspectors must be better trained and qualified to carry out the due inspection and establishment of partnerships between entities can also make the system more effective. [9], [12], [16].

It is concluded that the inspection actions are of extreme importance for the preservation of forests of native origin, in order that the production activities of the most varied forms do not cause significant impacts on the nature, jeopardizing the current and future generation.

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