Impacts of FSC Certification on workers and local communities including traditional and Indigenous Peoples

Study Design

Camilo De Los Rios
Marcelo Goncalves
Subhrendu Pattanayak
Erin O Sills
Claudia Romero

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Camilo De Los Rios
Duke University

Marcelo Goncalves
Duke University

Subhrendu Pattanayak
Duke University

Erin O Sills
North Carolina State University

Claudia Romero
University of the Sunshine Coast

Editors:

D. Andrew Wardell
CIFOR-ICRAF; University of British Columbia

Fredy Polo
FSC International

Franck Trolliet
FSC International

CIFOR-ICRAF

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CIFOR
Jl. CIFOR, Situ Gede
Bogor Barat 16115
Indonesia
T +62 (251) 8622622
F +62 (251) 8622100
E cifor@cifor-icraf.org

ICRAF
United Nations Avenue, Gigiri
PO Box 30677, Nairobi, 00100
Kenya
T +254 (20) 7224000
F +254 (20) 7224001
E worldagroforestry@cifor-icraf.org

cifor-icraf.org

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1 Introduction

The Forest Stewardship Council (FSC) emerged in 1993 as an opportunity to engage government, civil society and the private sector in promoting sustainable forest management through voluntary, independently verified certification. To identify the environmental, social and economic value created by certification, FSC's global strategy calls for 'impact data' (FSC 2021). One type of 'impact data' is evidence on the causal effects of the certification of management units. This type of evidence could be used both to guide the revision of FSC normative documents (e.g., Forest Stewardship Standards) and to inform stakeholders about the value of FSC certification. This, in turn, could lead to an increased demand for FSC-certified products and investments in FSC certified operations, rewarding certificate holders.

Certificate holders commit to conformance with the relevant national FSC Forest Stewardship Standards, which prescribe best practices in production, measures to limit or mitigate environmental impacts, and the generation of net social benefits for workers and local communities including traditional and Indigenous Peoples. In our conceptual framework, we maintain the assumption that certificate holders fully and effectively conform with all indicators. Even with this assumption, it is widely recognized that conformance with these standards cannot be automatically attributed to certification. One reason is that the standards are designed to be partially redundant with the national legal framework, both through the first principle on compliance with laws, and through other principles that reinforce or extend existing national regulations. A second reason is that firms that choose to obtain FSC certification are more likely than other firms to operate consistently with those standards regardless of certification (Auld et al. 2008; Blackman and Rivera 2011; Romero et al. 2017). The overlap between FSC standards and the existing legal framework, and the self-selection of firms into FSC certification both shape the potential causal effects of certification.

In this study, we are employing impact evaluation methods to attribute social outcomes to FSC certification, hence identifying the social impacts of FSC certification. We apply these methods to the case of Brazil, which had more than 9.5 million hectares certified by over 150 certificate holders as of July 2024, including both natural forest (around 25 percent of certificate holders) under FSC standard FSC-STD-BRA-01-01-2001, and plantation forest (around 75 percent of certificate holders) under FSC standard FSC-STD-BRA-01-01-2014. As informed by the prior steps listed in Appendix 1, this report describes the methods we are employing to evaluate the social impacts of certification of management units under these standards.

In the next section of this report, we present a Theory of Change with four pathways from certification to social impacts, leading to our key hypotheses about how certification may affect the social benefits of people who work for and live near certified forestry operations. While FSC International had indicated interest specifically in the standards pathway, certification of a management unit is a bundled intervention that can activate multiple pathways, making them all relevant to understanding observed outcomes.

In a separate report, Papp and Lentini (2025) assessed the standards pathway, identifying which social indicators (i.e., certification requirements as per FSC that are directly relevant to workers and local communities including Indigenous and traditional peoples) are additional to (going above and beyond) the Brazilian national legal framework (see Papp and Lentini (2025) for definitions of 'social' and 'additional' as applied to FSC indicators).

In the following section of this report, we consider outcomes that can be linked to the social indicators identified by Papp and Lentini (2025). Appendix 2 includes matrices that map the additional and complementary indicators from standards FSC-STD-BRA-01-01-2001 and FSC-STD-BRA-01-01-2014 to

social impacts that would have been expected if certificate holders conformed with the indicators in the relevant FSC Forest Stewardship Standard, if and only if they were certified. That is, we expect that FSC certification of management units caused these outcomes via the standards pathway if the certificate holder conformed with the indicator when certified, but conversely if not. The spreadsheets are based on the old standards because those are relevant to understanding and evaluating the social impacts of FSC to date in Brazil. As described by Papp and Lentini (2025), the new standards introduce important new elements, which among other implications, mean that future evaluations should consider gender differentiated outcomes among both workers and local communities.

This section links directly to and serves as the basis for the last stage of the project (Phase II), through which research was conducted following the empirical study designs described in the third section of the report. These designs describe the data collection and analysis required to also capture the other three pathways in the Theory of Change and the potential for unintended as well as intended impacts, as specified in the TOR for this study (FSC and CIFOR 2022). The study designs reflect the Theory of Change, the assessment of the standards pathway, results from interviews, and input from key informants in the forestry and certification sectors in Brazil, as well as the spatial patterns and history of certification in the major forested regions of Brazil. Specifically, we consider four analyses applying different approaches to causal identification in different regional contexts.

2 Theory of Change

Our first step in generating evidence on the causal impacts of FSC forest management certification is to describe the causal chain from certification to the potential impacts it can be expected to generate, which we define as differences in social outcomes with certification compared to outcomes without certification (see FSC website for examples of potential outcomes). The causal chain identifies the potential mechanisms, thereby providing a Theory of Change for how certification of a management unit can lead to impacts. Because impacts are defined as the difference in outcomes with and without certification, they are also a function of the counterfactual conditions without certification. This comparison to counterfactual conditions distinguishes impacts from outcomes, and impact evaluation from monitoring (e.g., through auditing).

As shown in Figure 1, the causal chain includes four mechanisms, similar to FSC's former Theory of Change, but operating at the level of the management unit (See Romero and Putz 2018, Supplementary Materials Figure S1 with specification of impact pathways). The standards and assurance mechanisms operate through specific indicators under the Principles and Criteria, while the societal sectors interactions and market mechanisms operate through the certification process. For certification to have an impact (i.e., an outcome different to what it would have been without certification), at least one of these mechanisms must be operational. When multiple mechanisms are operational, the likelihood and the likely size of an impact will increase.

The **standards mechanism** depends on whether the indicators of the relevant standards are additional, complementary or reinforcing to the existing national legal framework. Existing law refers to the legal framework, from the Constitution to implementing regulations. If indicators are additional (completely new compared to existing law) or complementary (extending existing law), then certification would have impacts if the certificate holder acted in conformance with the indicators when certified, but otherwise if not.

If indicators are fully or partially reinforcing the national legal framework, then the **assurance mechanism** determines whether certification will have an impact in the outcome domains of these indicators. This depends on whether the assurance system, comprised of third-party audits implemented by certification bodies accredited by Assurance Services International, is more effective than the government monitoring and enforcement of the legal framework at influencing the behaviour of certificate holders. Both the FSC assurance system and Brazilian legal enforcement can influence behaviour through deterrence, or through directly requiring conformance in the case of FSC and compliance in the case of regulations.

In terms of deterrence, the question is whether the expected penalty for failure to conform with an indicator is greater than the expected penalty of failure to comply with related law. This in turn depends on the likelihood that noncompliance will be detected (through audits, government monitoring or denunciations) multiplied by the expected penalty (at the most extreme, termination of certification or criminal prosecution). Both the FSC assurance system and the Brazilian legal framework also include mechanisms that provide companies with an opportunity to come into compliance, through corrective action requests (CARs) in the FSC system and through *termos de compromisso* or *acordos de leniência* in the Brazilian legal system.

If certification bodies are more likely than the government to detect non-conformance by forestry companies and guide them to take corrective actions, then certification is likely to have causal effects on social outcomes operating through the assurance mechanism. Note that this mechanism is irrelevant for additional indicators, since there is no comparable legal framework to be enforced in these cases.

These first two mechanisms operate together to create a **direct effects pathway** in which interactions between the certified company, workers and local communities lead to higher social benefits relative to the counterfactual situation without certification.

The **societal sectors interactions mechanism** depends on whether the engagement of relevant stakeholders (local communities, employees/workers and their representatives, non-governmental organizations, local government) in the certification process leads to improved communication and ability to address issues across stakeholders to accomplish complementary goals (e.g., better living conditions for workers who are also voters). We note that this mechanism operates at a different scale from the engagement pathway described in FSC's 2014 Theory of Change, which focused on engagement through FSC's global governance system and international membership. Both theory (e.g., Bowles and Carlin 2023) and stakeholder interviews in Brazil suggest that a similar mechanism operates at the local level, with new interactions between companies, local governments and civil society induced by certification holders and/or formalization of backward and forward linkages, which also leads to territorial development and higher tax revenues, and hence a **market mechanism**. For example, FSC certification of a management unit is likely to encourage firms in the value processing chain to obtain FSC chain of custody certificates, which may result in formalized workforces, both benefiting workers and resulting in higher tax revenues for the local government.

These last two mechanisms can operate independently or together to create a **political economy pathway**, in which the certified company's engagement with other institutional actors – both government agencies and civil society – combined with an improved fiscal status for the local government drives transformations in the local governance context, ultimately contributing to improved social outcomes in the jurisdiction or labour market of the certified management unit.

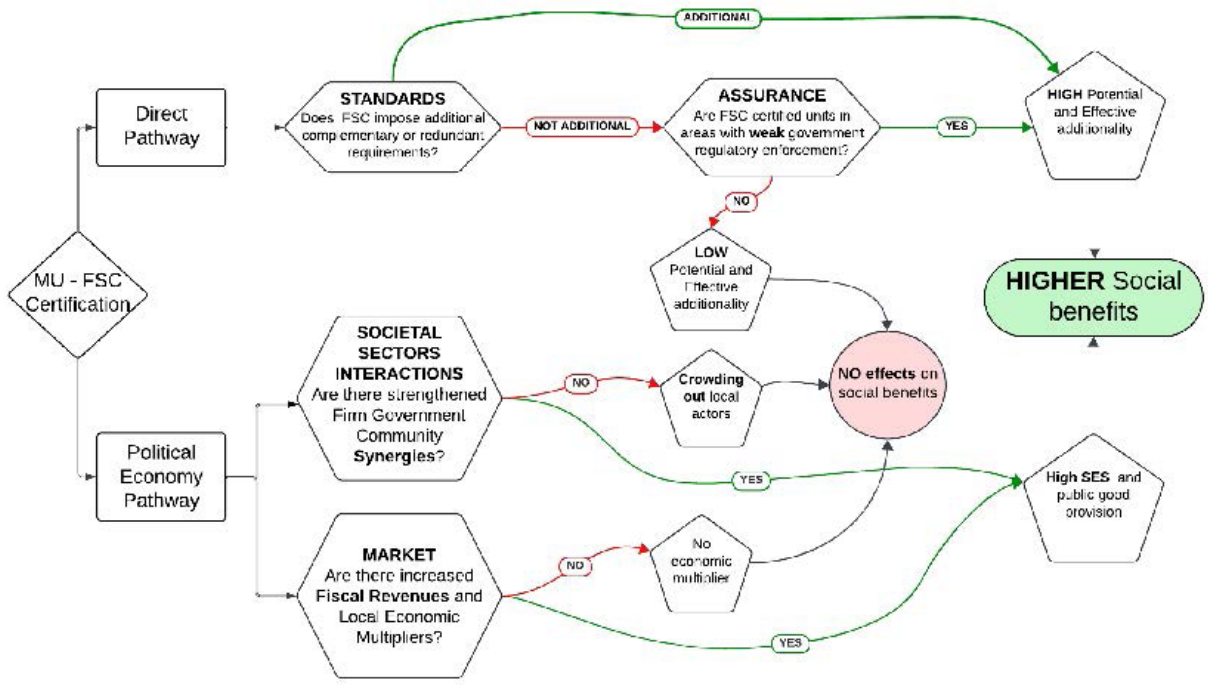

Figure 1. Theory of Change linking FSC certification of a management unit to higher social benefits to workers and local communities than would have been the case without certification. The four impact mechanisms are nested within the *Direct* and the *Political Economy* pathways that guide the design of research activities.

A final consideration across the Theory of Change is the effect of self-selection into certification. Because certification is voluntary, firms choose whether to become certified. Companies that obtain FSC certification might already conform with some of its requirements independently. Possible reasons include corporate values, long-term strategic vision, local contextual factors, and the internalization of social benefits. If firms that choose certification were already implementing some (or all) of the FSC requirements prior to certification, and intended to continue regardless of certification, this limits the plausibility of certification itself generating additional effects on social outcomes. The extent of such self-selection therefore determines the magnitude to which we can expect measurable social impacts. Addressing self-selection is not a theoretical issue, but an empirical one, and should thus be explicitly accounted for in the empirical analysis by building on the Theory of Change. There is a large scientific literature that describes and applies methods for testing and correcting for self-selection bias (e.g., Khandker et al. 2010; Börner et al. 2020; Langhammer et al. 2024).

Figure 1 shows two main mechanisms through which FSC certification can influence social outcomes for workers and local communities directly linked to the certified forest (through employment or proximity): (i) the *direct pathway*, which encompasses the standards that certified firms are required to meet; and (ii) the *assurance mechanism* through processes that verify and monitor conformance with those standards.

The *political economy pathway* involves broader, indirect effects on local labour markets through greater community engagement (i.e., *societal sectors interactions* mechanism*)* and an improved *market* access mechanism, which influences territorial development, because of increased public revenues from more formalized supply chains.

3 Linking FSC indicators to specific outcomes

To identify social outcomes linked to specific FSC indicators, we followed a three-step approach (included in the list in Appendix 1). First, we reviewed the scientific literature on the social impacts of voluntary certification schemes and sustainable forestry practices. Second, we drew on the theoretical framework described earlier to identify the main pathways through which certification could influence social conditions. Third, we drew on Papp and Lentini's (2025) examination of the FSC Forest Stewardship Standards for natural forest management FSC-STD-BRA-01-01-2001 and plantation forest FSC-STD-BRA-01-01-2014 alongside Brazil's national regulations to determine the possible scope of the standards pathway.

Based on these three steps, we then defined an outcome related to each indicator that FSC certification could plausibly affect under current Brazilian conditions for the natural forest management (FSC-STD-BRA-01-01-2001) and the plantation forest (FSC-STD-BRA-01-01-2014) standards. The matrices linked to Appendix 2 contain information on outcomes related to each complementary and additional indicator as established by Papp and Lentini's (2025) assessment for both Natural Forest Management and Plantations Standards.

In the final deliverable for this project providing input on the development of outcome-oriented indicators, we will build out these matrices to include reinforcing indicators, and we will compare them to the initial list of key intended outcomes for the current Principles and Criteria that have been compiled in the annex of forthcoming guidance from FSC available via the consultation platform: https://consultation-platform.fsc.org/en/consultations/document/c8c824a9495741/2595

To illustrate the rationale for the identified outcomes, below we describe some metrics for indicators linked to outcomes related to **complementary indicators**.

1. Number of unresolved disputes or legal issues: Counts of unresolved disputes, if any, between the plantation and local communities (including Indigenous and traditional populations) or workers. Fewer unresolved disputes could result from improved conflict resolution, dialogue and social responsibility under FSC standards.
2. Metric tons of solid waste (e.g., plastic containers, chemical packaging) disposed per month in sensitive areas such as near waterways or local communities: Total amount of solid waste produced by the plantation and not recycled or reused. Lower volumes could result from more effort to recycle or reuse waste material (e.g., Indicator 6.6.2)
3. Number of health issues of people working or living near to disposal sites: Improvements may reflect better waste management and reduced exposure to contaminants (i.e., Indicators 6.6.2 and 7.3.2).
4. Water quality: Incidence of water borne disease in communities receiving water for domestic consumption from drainage areas that intersect with management units.
5. Indicators related to occupational health, safety and performance (e.g., number of days lost because of work-related accidents): Improvements could result from documentation of procedures, training sessions conducted, and total investments in protective equipment for workers. This could also reflect the effectiveness of training and adoption of health and safety practices promoted by FSC.
6. Number of mistakes in implementing management plans and environmental practices: Recorded errors that are deviations from the management plan could reflect quality of training, supervision and procedural conformance.

7. Average wages of workers by type of work and average income of households in nearby communities could reflect implementation of a range of indicators that improve conditions for workers and communities.
8. Reports of violations of labour laws or collective bargaining agreements: A decline in numbers of reports of documented cases or complaints related to labour law violations or breaches of collective bargaining agreements could indicate greater adherence to national labour standards.

While the above illustrates how specific indicators can be linked to specific social outcomes, stakeholders in Brazil confirmed that the process of FSC certification may interact synergistically with these outcomes to generate broader social impacts. One oft-cited example is investment in territorial development plans. The outcome could be defined as the number, type and amount invested in local territorial development plans, including the categories of projects implemented each year – for example, education, basic services, water infrastructure or local transport. Tracking this information on investments would help reveal how certification shapes corporate engagement in community social benefits. While there is no explicit requirement from FSC for companies to make local investments beyond reparations and mitigation, indicators such as 4.4.1, 4.4.2 and 4.4.6 require discussions with the communities, which we argue foster investments beyond mere reparations.

4 Study designs

While we have presented a general Theory of Change describing how certification of natural forest or plantation management units could have social impacts, the causal impacts of certification on social outcomes will depend on the context, including the type of forest land tenure, the type of local community and its traditional or preferred use of forest resources, and the type of certificate holder including its scale of operations, primary market, and degree to which it fully and effectively conforms with all indicators. The potential for impacts through the *direct effects pathway* also varies across outcome domains, as a function of the underlying legal framework, on paper and as enforced. The potential for impacts through the *political economy pathway* depends on the existing social and economic structure, including the strength of ties between civil society, the private sector and government, and the degree of formality and local participation in the supply chain for forestry inputs and outputs.

Focusing on the *direct effects pathway*, Papp and Lentini (2025) examine the standards mechanism by comparing the indicators and the legal framework as written. They find that across both standards, many of the indicators regarding local communities establish requirements additional to the law as written, except for indicators regarding traditional and Indigenous Peoples, who are, on paper, rigorously protected by Brazilian law. Hence, many of those indicators are either redundant with Brazilian law (and with FSC's first principle, which requires compliance with all laws), or are irrelevant given that commercial timber harvesting is not allowed in Indigenous territories. They also find that many of the indicators regarding workers are redundant with existing laws. They label these indicators as 'reinforcing' of the existing legal framework.

Focusing on the *political economy pathway*, De Los Rios et al. (2025) estimate how the expansion of the FSC certified forest area in a municipality, relative to the total forest authorized for timber harvest, influences outcomes using causal identification methods including two-way fixed effects and synthetic difference-in-differences. These are widely considered to provide the strongest identification of causal effects based on observational (quasi-experimental) data. They found suggestive evidence of impacts such as reduced incidence of tropical diseases, increased investment in public goods, and a higher probability of land-based conflicts. However, when they apply a more rigorous estimation strategy based on the synthetic difference-in-differences (SDID) estimator, they are only able to confirm a statistically significant effect in one municipality where a large fraction of production forests has been FSC certified. A high level of certification appears to effectively activate the *political economy pathway*, resulting in an increase in public goods provision.

More generally, we expect to find heterogeneous impacts across both contexts and outcome domains, where context refers to the type of certificate holder (i.e., natural forest or plantation forest manager) and the region, and outcome domain refers to affected stakeholder groups (e.g. workers and local communities). To capture this expected variation in impacts, we examined a range of social outcomes relevant to different stakeholder groups in several different contexts selected to be informative for our understanding of the social impacts of FSC in Brazil. In each case, we employ the most appropriate methods for elucidating causal impacts given the data that can be compiled through this project (Table 1).

We note that the table does not include one study design that was considered, but which we decided not to pursue. In the states of Paraná and Santa Catarina in southern Brazil, the forestry sector is dominated by small to medium forestry operations. In this context, it would be possible to identify and compare matched samples of forestry operations that are similar in most respects except that some are certified and some are not. However, we hypothesized that the assurance mechanism

Table 1. Study designs

#	SCOPE	SCALE	STATUS	OUTCOMES	METHODS
1	Natural forests	Municipality	Delivered (adjustments in progress)	Public expenditures; taxes; workforce; timber production	Counterfactual (DID and SC)
2	Natural forests	Concessions	In progress	Education (drop out and graduation rates). Economic activity (night-time light intensity)	Counterfactual
3	Plantations	Municipality (2020)	In progress	Public expenditures; taxes; workforce; timber production	Descriptive regression
4	Plantations	Management unit	In progress	Full list of outcomes associated with indicators under FSC-STD-BRA-01-01-2014 as listed in Appendix 2	Process tracing
5	Plantations	Management unit	Compiling data	Data on workers and local communities have been requested	Pipeline design

Source: CIFOR-Duke Research Team

would be relatively weak, because of strong enforcement capacity by the government relative to small- to medium-scale operations and the generally high governance capacity in this region. We also hypothesized that any effects through the market mechanism would be small relative to the strong and diversified economies of this region, making them difficult to detect statistically. As a result, we decided not to pursue this analysis.

The first study design listed in Table 1 is the basis for the working paper by De Los Rios et al. (2025) described above. We do not replicate this exact study design for plantations for two reasons. First, information on certified area by municipality is not available. Although these data are included in audit reports, they are now treated as confidential and therefore cannot be accessed by researchers or the public, either directly from FSC's website or through FSC Brazil. Second, FSC International indicated that they are choosing not to prioritize the evaluation of the *political economy pathway* – including the societal sectors interactions and market mechanisms – to assess the social impacts of FSC certification. Thus, the analysis of certification in the plantation sector across all of Brazil listed in the second row is a descriptive regression of changes in social outcomes (between the 1990s and present) on a measure of certification constructed as certified area in 2020 (already compiled and shared with us) divided by plantation area (from MapBiomas) for each municipality in Brazil outside the Amazon. This involved municipal-level controls for potential confounders that could influence both certification and social outcomes. This type of regression could potentially capture **all four mechanisms for all certified plantations in Brazil**, but does not provide strong causal identification because of the reliance on cross-sectional data.

With the third study design, **we are estimating the social impacts of certification of public forest concessions (both national and state forests, FLONAS and FLOTAS, respectively) in the Amazon.** We have compiled data on all concessions including location, year issued, and – as relevant – year certified. These concessions are already subject to stringent government regulation, yet we hypothesize that certification may generate additional social impacts on economic activity and education through the four mechanisms articulated in the Theory of Change. We measure outcomes using remote sensing data (e.g., night-time lights) and administrative public records (e.g., school dropout and graduation rates at schools geographically linked to concession locations).

The Theory of Change delineates the mechanisms through which such impacts may arise. For example, through the societal sectors interactions, firms may undertake community investments in educational centres; through the assurance mechanism, improved labour practices may reduce the incidence of child labour. While disentangling the relative contribution of each specific mechanism is inherently unfeasible, the combined operation of these mechanisms may plausibly lead to better schooling and economic activity outcomes. This could occur, if improvements in worker social benefits raise household income – thereby generating an income effect on children's schooling – or if community investments increase local economic activity, as proxied by night-time luminosity. To estimate these effects, we are employing counterfactual methods, with a focus on staggered difference-in-differences estimators.

Fourth, based on our review of concerns that have been raised about social impacts of plantation forestry establishment and expansion in Brazil (e.g., Kroeger 2012; Kroeger and Nylund 2012; Kroeger 2023; personal communication with Luciana Papp), we are examining the social impacts of certification of plantations in Bahia and Espiritu Santo. Forestry plantations in this region are dominated by a few large companies growing eucalyptus for pulp and paper, oriented towards the export market. Because of the scale of operations and market focus, nearly all plantations in this region are certified. **To assess the causal impacts of FSC certification in this context, we are employing process tracing (Zavaleta Cheek et al. 2023)**.

CIFOR has contracted a Brazilian consultant who will first identify the possible actions and actors that could function as mechanisms linking the indicators identified as 'additional' by Papp and Lentini (2025) to the outcomes listed in Appendix 2. Starting with the two pathways identified above and a list of outcomes targeted by each additional indicator, specific mechanisms and intermediate outcomes along the causal chain from the indicators to their intended outcomes will be identified. As part of this initial phase, the complementary and reinforcing indicators that are most likely to have social impacts will be identified. Evidence on the operation of these mechanisms through all available types of information including audit reports, published company reports, media content, and interviews and focus group discussions with stakeholders will be gathered. Unlike previous qualitative work that has focused on audit reports and CARs, the focus will be on plausible pathways for impacts, starting with indicators that are additional on paper.

Fifth, following meetings with IBÁ *(Industria Brasileira de Árvores)* and IPEF (*Instituto de Pesquisas e Estudos Florestais*), we requested information from their members that will allow us to quantify causal effects with a 'pipeline design' that links the roll-out of certification over time to the history of social outcomes from the 1990s to present. In this approach, our goal is to identify whether, and by how much, outcomes such as workplace safety improve (or not) after a firm becomes FSC certified, comparing both to that same firm before certification and to firms that are not yet certified. While this is demanding in terms of data (i.e., requiring historical data on outcomes), it would represent a significant advance in rigorously isolating cause-and-effect relationships. This approach provides a credible way to measure the impact of certification using the natural timing of certification.

The two types of comparisons embedded in this approach will allow us to separate the specific effects of certification from other differences that may exist between firms. This is important because certified firms might be different from non-certified firms in relevant characteristics. For example, plantation firms that obtain FSC certification may already be better organized or more compliant with regulations than others. Simply observing that certified firms perform better would therefore not prove that certification caused these improvements. By comparing the same firm over time and contrasting its experience with that of similar firms that have not yet been certified, we can more credibly estimate the changes that are truly attributable to FSC certification.

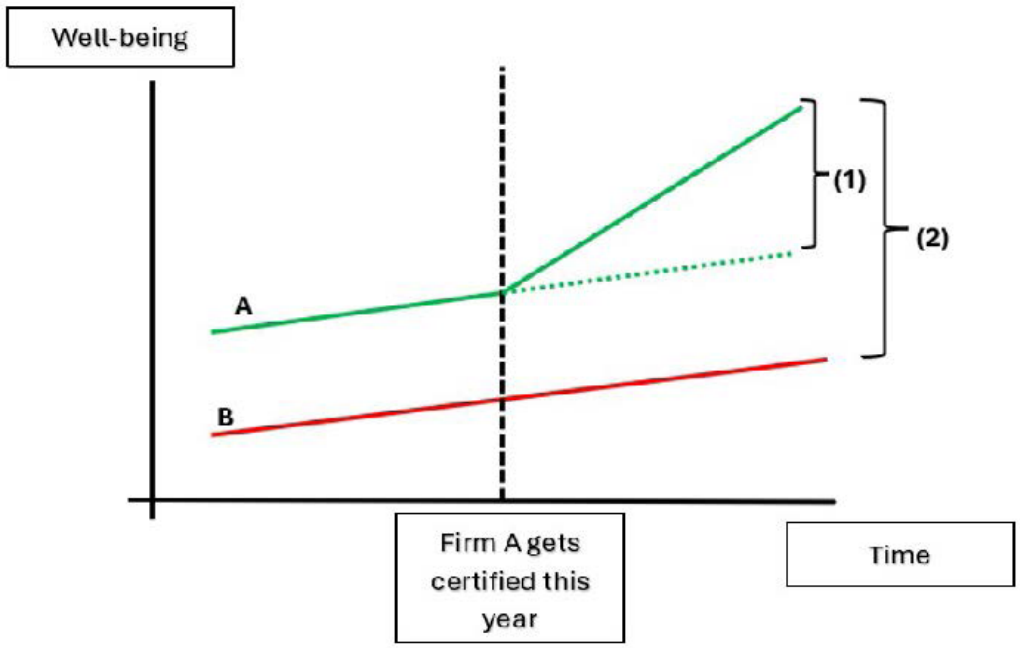

Figure 2. A simple diagram on a Before-After Intervention-Control (BACI) framework for analysis
Source: CIFOR-Duke Research Team

We illustrate the *Before-After, Control-Intervention* (BACI) principles using a simple example with only two firms, *A* and *B*. In this example, firm *A* obtains FSC certification, while firm *B* does not. In **Figure 2**, we show the evolution of workers' social benefits (on the vertical axis) over time (on the horizontal axis). Firm *A* is shown in green, and firm *B* in red. The vertical dashed line marks the year when firm *A* receives its certification. Before certification, firm *A* already exhibited higher levels of worker social benefits than firm *B*. If we were to simply compare the two firms after certification, we might mistakenly attribute all these pre-existing differences to FSC certification – thereby overestimating its true effect. This mistaken difference is shown as the distance (2) between certified and non-certified firms *A* and *B*, respectively. However, part of this gap reflects differences that existed *before* certification.

The true effect of FSC certification is therefore the additional improvement that occurs in firm *A* after it becomes certified, beyond what would have happened otherwise. That is, the true effect is represented by (1) in the figure, or the difference between the green solid and dashed lines.

While this is a simplified scenario with only two firms, the same logic applies to our real-world case. From our interactions with IBÁ, we understand that members obtained certification at different points in time, allowing us to observe these before-and-after changes across multiple firms. This staggered timing provides the variation we need to identify how FSC certification influences social outcomes across the sector. We explain this in detail below.

Our design uses the fact that firms obtained certification at different points in time. This 'staggered' rollout allows us to use firms that will receive certification in the future as temporary benchmarks for those that have already been certified. Because all firms that are part of IBÁ are currently certified, there are no 'pure controls' that never receive certification. Instead, at any given point in time, the control group consists of firms that have not yet received certification.

In practice, this means that we compare how outcomes change within each firm over time (before versus after certification) and across firms (those certified earlier versus later). These combined comparisons allow us to approximate the 'counterfactual', which is what each certified firm's social outcomes would be if they were not certified.

Importantly, the feasibility of this methodology hinges on the willingness of companies to provide the required data. While we have established partnerships with Brazilian institutions (such as IPEF) who are willing to help facilitate access, the relevant information is proprietary and held exclusively by the companies. Consequently, the successful implementation of this component of the analysis depends entirely on firms' collaboration in supplying accurate and historical records. To support this process, we have designed a detailed survey instrument that companies will be asked to complete to share the necessary data. Our partnerships with Brazilian institutions who are known and trusted by the forestry sector make it plausible that such information can be obtained.

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Appendices

Appendix 1

Steps completed:

1. Reviewed scientific literature on
   a. social impacts of FSC certification, with a special focus on the Global South
   b. enforcement of laws establishing labour standards and governing relations with local communities (including Indigenous Peoples) in Brazil
2. Reviewed expectations and concerns regarding social impacts of FSC certification in Brazil as reported by media and advocacy organizations
3. Compared FSC indicators to Brazilian legal framework
4. Developed causal model (ToC) for how FSC certification of natural and plantation forests is expected to affect social benefits to workers and local communities, including Indigenous Peoples, as informed by FSC documentation, studies of social impacts in other sectors and conversations with key informants in the Brazilian forestry sector
5. Identified outcomes for each additional and complementary indicator for FSC plantation and NFM standards
6. Assessed distribution of certified and non-certified area of natural forests and plantations by state and by year
7. Met with stakeholders (IBÁ, Imaflora, IPEF, NeoCert and Sysflor

Appendix 2

Table mapping additional and complementary indicators in Natural Forest Management Standard FSC-STD-BRA-01-01-2001, as identified by Papp and Lentini (2025), to social outcomes.

Linked here

Table mapping additional and complementary indicators in Plantation Forest Standard FSC-STD-BRA-01-01-2014, as identified by Papp and Lentini (2025), to social outcomes.

Linked here

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Certificate holders commit to conformance with the relevant national FSC Forest Stewardship Standards, which prescribe best practices in production, measures to limit or mitigate environmental impacts, and the generation of net social benefits for workers and local communities including traditional and Indigenous Peoples. The theory of change presented in this report assumes that certificate holders fully and effectively conform with all FSC indicators. Even with this assumption, conformance with these standards cannot be automatically attributed to certification. One reason is that the standards are designed to be partially redundant with the national legal framework, both through the first principle on compliance with laws, and through other principles that reinforce or extend existing national regulations. A second reason is that the firms that choose to obtain FSC certification may be more likely than other firms to operate consistently with FSC standards regardless of certification. The potential causal effect of certification are shaped by both the overlap between FSC standards and the existing legal framework, and the self-selection of firms into FSC certification.

This report is part of a study that employs impact evaluation methods to attribute social outcomes to FSC certification. These methods are applied to the case of Brazil, which had more than 9.5 million hectares certified by over 150 certificate holders as of July 2024, including both natural forest (around 25 percent of certificate holders) under FSC standard FSC STD-BRA-01-01-2001, and plantation forest (around 75 percent of certificate holders) under FSC standard FSC-STD-BRA-01-01-2014. Following a review of the Institutional and Legal Contexts of FSC Certification in Natural and Plantation Forestry in Brazil (CIFOR-ICRAF Working Paper 67), this report describes the theory of change and possible methods for evaluating the social impacts of certification of management units under these standards. The Theory of Change identifies two pathways, each with two mechanisms, that link certification to social impacts, leading to our key hypotheses about how certification may generate social benefits for people who work for and live near certified forestry operations.