

WHO BENEFITS FROM TREE-PLANTING IN THE GLOBAL SOUTH?

The case of two carbon offset projects in Laos

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What is the Land Matrix?

The Land Matrix is an independent global land monitoring initiative that promotes transparency and accountability in evidence-based decisions over large-scale land acquisitions (LSLAs) in low- and middle-income countries across the world.

Deal narratives are investigations of specific LSLAs by our regional and global partners that provide an in-depth and detailed analysis of single deals in addition to our global database. This deal narrative focuses on Land Matrix deals [#8058](#) and [#10036](#). By making this information available, the Land Matrix aims to support broad engagement and information exchange, facilitating the continuous improvement of the data. The information on the deals is based on both secondary research and in-depth field research in the region involving the relevant stakeholders.

Find out more at www.landmatrix.org.

To meet the global goals of climate change mitigation, planting trees has become a prominent, and ostensibly easy, approach. A [recent report](#), however, estimates that the equivalent of half of today's global croplands, 633 million hectares (ha) of land, are required to meet the projected biological carbon removal in national climate pledges and commitments that involve reforestation. In addition, private sector actors are increasingly using this option to offset their own or to sell carbon credits on the voluntary carbon market. This will require acquisitions of large tracts of land for interventions that reduce carbon through tree planting – and with little available land in high-income countries, investors often turn to the Global South to address the increasing demand to offset carbon emissions. Still, most of this land is far from idle – as is often claimed to justify deals such as these – and the experiences during the [global land rush](#) in the last few decades showcase how land investments from actors in high-income countries often adversely affect local communities. So how can we ensure that we do not perpetuate the failings of the past when it comes to carbon offsetting?

With biological carbon removal projects already receiving large parts of the increasing financial flows towards carbon offsetting, with the forestry and land use sector taking a share of 16% (see Figure 1), we illustrate the ensuing trade-offs and potential benefits using the example of two land deals from the Land Matrix database in Lao People's Democratic Republic (Lao PDR), commonly known as Laos: [Burapha Agro-Forestry](#) and [Lao Thai Hua Rubber](#), both of which have large-scale plantations with small but growing fractions set aside for carbon trading (see Figure 2).

In the past few years, Laos has successfully attracted numerous land-based investments. As of 2017, the government has granted land for development for more than 1,500 agricultural investments covering over a million hectares, or 4% of Laos' territory. However, investments also occur beyond agriculture. A [report based on deals with relevant data available](#) revealed that 16% of the developed area was for agricultural investments, 44% for mining investments, and 40% for tree plantations. Adding to this mix, new carbon offset projects, but often the repurposing of tree plantations for carbon sequestration as well, have also started to emerge in Laos (see Figure 1).

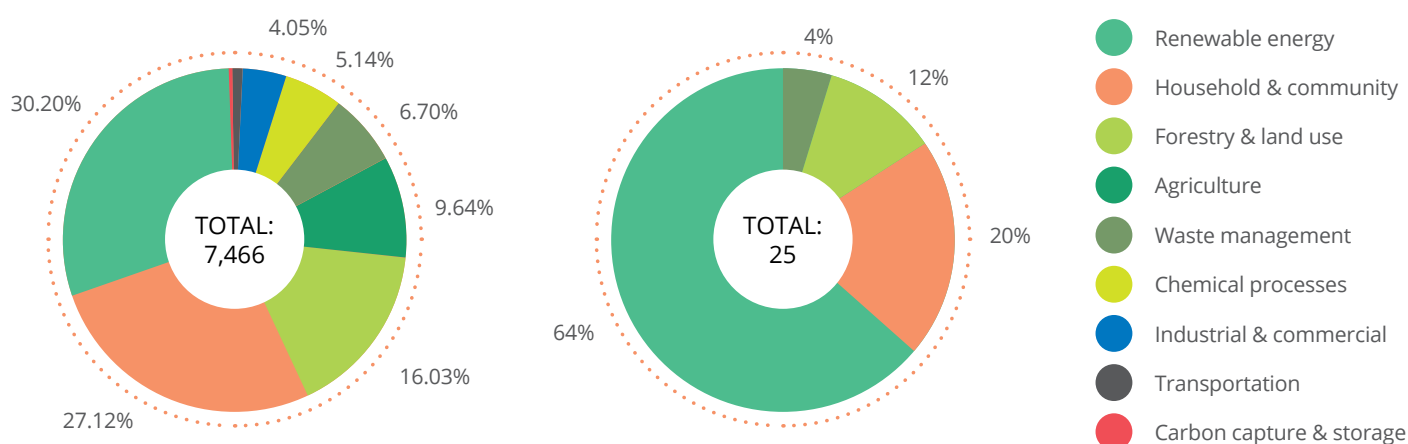


Figure 1: Sector distribution of credit issuance in 2022, global (left) and Laos (right)

The equivalent of half of today's global croplands, 633 million hectares (ha) of land, are required to meet the projected biological carbon removal.

Of note, many carbon offsetting projects claim to bring benefits for the trident of sustainability: planet, profit, and people. Proponents of such projects assert they sequester carbon dioxide from the atmosphere, increase local biodiversity, and improve ecosystem functions, such as the water cycle and soil health. In addition, over and above these more “altruistic” motives, the companies generate profit through selling carbon credits to individuals and organisations that want to compensate for their emissions. These deals are brokered by international certification bodies, such as Verra or Gold Standard. Verra's Verified Carbon Standard (VCS) is the world's most widely used standard for certifying carbon emission reductions, covering

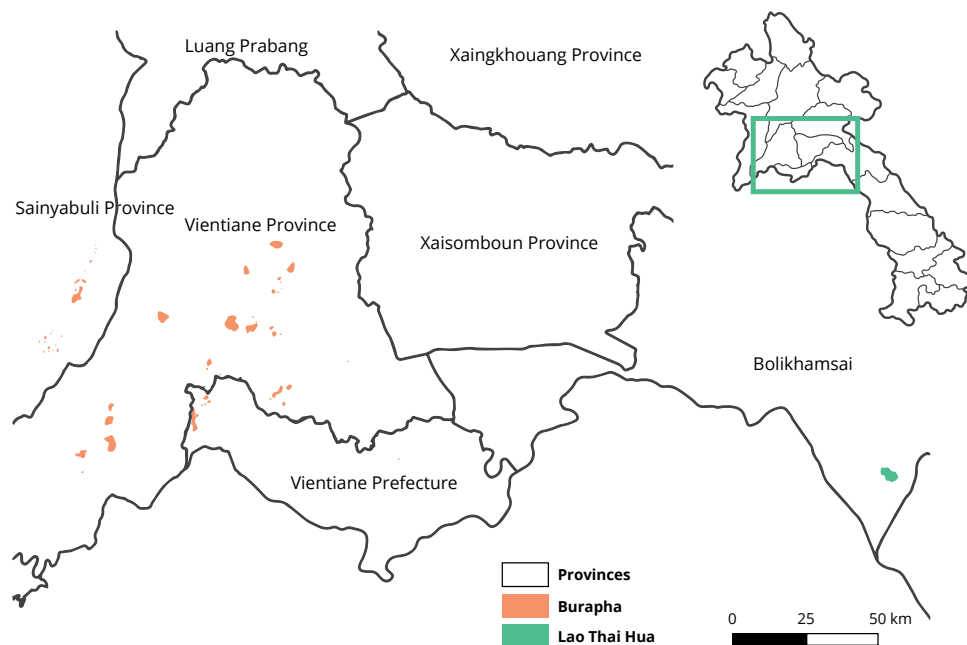


Figure 2: Map of both carbon offset projects in Laos

three-quarters of all voluntary offsets. While [the claim of bringing benefits for the planet](#) is increasingly contested, the notion that people on the ground benefit from these investments is also a critical but often little researched claim.

Our first example, the timber company Burapha Agro-Forestry, is deeply rooted in Laos, dating back to 1990. Adding to its traditional timber production, one of Burapha's newer business models in the region is to register its establishment of new plantations on degraded land as carbon offsets. To sell carbon credits on international markets, Burapha has already registered 3,536 ha of its roughly 6,000 ha currently planted in Verra's VCS. Not far from its head office in the national capital of Vientiane, the plantations are currently spread over five provinces, with the company planning to increase the area under production more than ten-fold in the future, adding to its existing 68,000 ha concession by 5,000 ha annually from 2025 onwards as it continuously surveys new areas.

Our second example, Lao-Thai Hua Rubber (LTH), also has plantations across five provinces, but only its 661 ha carbon offset project in Bolikhamxay province is registered in VCS, which is a very small part of its total investments. The project has been officially registered as carbon offset project under the Clean Development Mechanism (CDM). However, the CDM was gradually phased out starting in 2020. To offset carbon and generate profit from agricultural production, LTH plants rubber trees on degraded land, taps rubber when the trees are old enough, and, at the end of the concession, cuts and sells the trees. LTH describes its approach to the carbon offset project, which is limited to 30 years with an optional five-year extension, as a "pioneering social and economic formula that provides sustainable change to poor rural communities without adverse impact on land ownership issues."

Both these companies' targets certainly sound promising, but the question remains: Who really reaps the benefits of planting trees in the Global South to offset global carbon emissions?

Whose land is it anyway?

Land is a crucial asset for rural households in the still largely agrarian society of Laos. However, despite the Laotian government increasing its efforts to register land throughout the country, all land is by law owned by the government, and therefore essential land use rights are seldomly formally recognised. As a result, land-based investments in the country often lead to conflict with the claims of local communities over access to land. For example, in none of the areas throughout the country that the government has demarcated for either production, preservation, or protection in order to achieve its long-standing goal of 70% forest cover can land use titles be legally held, even though local communities have lived in these regions for generations.

All of the newest concessions of Burapha's eucalyptus, for instance, are on state forest with the company asserting that any state land which is *de facto* farmed on by locals is not targeted for new plantations. This claim that state forests are idle land cannot be verified and is contested by the reality on the ground. Although no direct evidence was found for the case of Burapha, the deficient land governance system in Laos does at least not impede the displacement for carbon offset projects. In the case of LTH, its rubber plantation is located on village land, with landowners (or rather, land use rights holders) receiving 5% of rubber sales and therefore, in this system, no upfront compensation is provided either. As we explain later, this system is not without its problems, and conflicts frequently occur – some of them even placing a significant question mark over the carbon sequestration claims.

"Conflicts frequently occur – some of them even placing a significant question mark over the carbon sequestration claims."

Fires have destroyed 224 ha (that is, nearly a quarter) on the LTH plantation since the inception of the project.

Unlocking employment opportunities: Can we land a job here?

Employment generation is one of the prominent promises of large-scale land acquisition (LSLA) investors. Carbon offset projects in general, and our two cases in particular, are following suit in this narrative. On paper – as well as during community consultations – the companies offer direct employment and contract farming, and engage local communities through agroforestry schemes within their investments. In practice, however, implementation can be very diverse. For example, LTH offers anybody who leases land to the company to work with them in a '2+3' scheme, whereby the smallholder contributes two inputs (land and labour) and the company provides technical knowledge, capital, and a market for the produce. While 70% of the workforce is employed in this way, the remaining 30% (apart from a very small migrant share from another province) are from the four affected villages who have not leased off land. With 250 contracted labourers on the whole plantation who either work on their own land or on leased-out farms, LTH has a labour intensity of 0.25 people per hectare. Burapha hits similar numbers, with 0.2 people per hectare for the running business and 0.3 people per hectare for new clearing activities. These numbers are lower-bound estimates for two reasons: firstly, in addition to the permanent workers (annual contracts), labourers are commonly recruited to take care of, for instance, weeding a specific area for a fixed price; and secondly, those with a contract normally bring along family to work, so that the intensity is potentially only a fifth of the above numbers. This in itself raises another critical issue – that of child labour. Difficult to control in these settings in general, child labour was reported to us as a common phenomenon in these projects, even though both companies state that they have regulations restricting labourers to a minimum age of 18 years.

Compared to highly mechanised farms that produce staple crops or forestry deals that focus solely on timber extraction, Figure 3, which shows these labour intensities in relation to LSLAs in the agricultural sector, demonstrates that both projects still generate more permanent jobs due to the limited scope of mechanisation in, for example, rubber tapping. In addition, most of the labour force comes directly from the region. However, other labour-intensive crops such as coffee and fruits surpass them, as do smallholder farming systems, which often [sustain whole families on little more than 2 ha of land](#).

Direct employment or contract farming is not the only benefit that these companies promise. Both Burapha and LTH allow locals to intercrop within agroforestry schemes and to bring their livestock to the plantation areas. This makes the first years of the operation (a cycle in Burapha's case) very attractive to locals as they can generate income through both plantation maintenance and crop sales. However, the devil is in the detail. Intercropping is primarily viable only during the first year after planting, before the canopy closes over the upland rice fields. In the remaining six years in the eucalyptus cycle, about 30 years even for rubber cultivation, locals cannot use the plantation area for intercropping. Cattle and small livestock are allowed to graze between the tree rows from the third year onward but hardly any villagers affected by the LTH plantation use this opportunity. The adoption rate in the Burapha plantations is higher, possibly because, unlike at the LTH plantation, smallholders are not held responsible for damage caused by their animals to the trees. Overall, the benefits of the agroforestry scheme are but very limited for the affected communities.

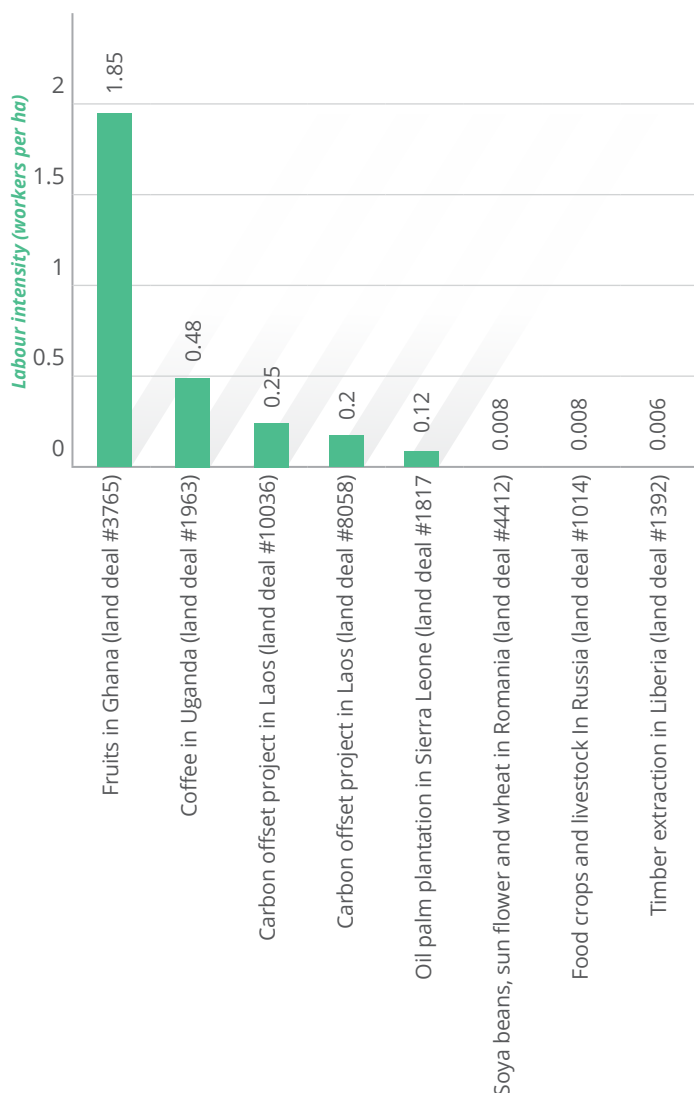


Figure 3: Comparing labour intensities across different land deals



Slash-and-burn practices in the region

Theft, fire, and conflict: Not a win-win situation after all?

Even where conflicts are not plainly obvious, there is frequently some form of more or less overt resistance. For example, fires have destroyed 224 ha (that is, nearly a quarter) on the LTH plantation since the inception of the project, and even though these cannot be clearly attributed to intentional fires, and could be accidents or natural occurring wildfires, the significant clustering of fire events support the general suspicion of intentional sabotage of the plantation. Indeed, interviews with various stakeholders mention that villagers sometimes burn plantation plots to increase their own cassava plantations or because they feel disadvantaged through the contract farming scheme. This suggests that arson cannot be ruled out. Worth mentioning, the areas that have been destroyed by fires are not replanted due to the limited project timeline.

Theft of latex is another significant issue, according to the plantation manager and confirmed by the heads of the affected villages. The stolen latex is then purchased by middlemen, who do not ask questions about its origins. In 2022, nine labourers were caught and imprisoned.

In response to high conflict intensity, the government deployed soldiers and police to secure the plantation, an action that was broadly supported by the village leadership of the four affected villages, who see this as a necessity to maintain order in the area.

At the core of these conflicts were two factors: allocation of plots; and price setting. Once the concession was acquired from the central government, the company consulted with the villages to allocate the actual plots. During this process, some households decided not to lease out their land, either because they had had negative experiences with investors before or because they preferred planting their own cassava or rubber. In addition, the villagers did not perceive the process of plot selection as transparent in general, resulting in widespread grievance. The disputes on the latex sales price also go back to the first consultations, and have accompanied the community-company relations ever since. The first agreement was that the villagers would receive their harvest paid out at 30% of the current world market price. However, with these prices fluctuating over the years, the villagers were not satisfied with the payment on various occasions, and even though they subsequently renegotiated with the company, leading to a price guarantee and new sharing agreements, an overall feeling of being disadvantaged by the companies seems to persist.



Fires close to the Burapha plantation

Carbon offset projects for profit, planet – and people?

While Burapha and LTH have to some extent put an exemplary process in place to improve the benefits of the local population, such as through agroforestry schemes, our study found that the problems on the ground remain very similar to those experienced by many other agricultural investment projects over the decades. First, lack of recognition of customary land rights is still an issue. Despite Burapha emphasising that if it becomes aware that the production forest areas are being used by locals during consultations it does not continue with the establishment of a plantation, it often remained unclear who had degraded the forest in the first place. It is not implausible that the land was used in the past by local communities to obtain firewood or for slash-and-burn agriculture. Second, although the production systems of both projects generate more employment compared to mechanised farming, labour intensity is still considerably lower than in smallholder farming. The agroforestry and intercropping schemes are also too limited to provide substantial benefits to the local population. Lastly, companies' production processes and contract arrangements commonly conflict with local perceptions of what is fair and just, often leading to severe conflict. The prevalence of conflicts and associated damages, such as frequent fires and ensuing carbon emissions, also threaten to upend the carbon-offsetting 'trident of sustainability' vision.

The lack of adequate consultation that fuels these conflicts is clearly illustrated in one particular finding: Only a tiny minority of interviewed people had ever heard of the concept of carbon sequestration, and those that had rarely understood the concept, which is often translated and referred to by locals as 'selling oxygen'. For example, on at least two occasions, interviewees reacted in relief when this topic was mentioned as it presented an opportunity for them to ask why they had never seen any oxygen bottles being transported off the plantations. While carbon sequestration can arguably be a complex concept to explain, it is nevertheless every company's duty to make an effort to do so, particularly to the affected populations. As enshrined in Free, Prior, and Informed Consent (FPIC), which, according to the Food and Agricultural Organisation (FAO), is a specific right granted to indigenous peoples aligned with their universal right to self-determination, communities have a right to full transparency as to how income is generated from

their land, not least to be able to claim fair compensation and participation. Indeed, the "informed" in FPIC stipulates that not only must information be provided, but that it must be done so in a way that is accessible to ensure that recipients of the information understand it. Even so, the difficulties in understanding carbon trading are not only due to language and cultural barriers; it is often incomprehensible to farmers why large investors should suddenly receive money for activities that they themselves have been carrying out for centuries, such as planting trees or cultivating rubber. In fact, this highlights another fundamental question when it comes to carbon offsetting: who actually contributes to carbon sequestration, and who gets paid in the end?

Some investments do endeavour to improve the trident of sustainability, and these efforts have the potential to offer wider benefits.

Yet, it also has to be highlighted that some investments, Burapha in particular, do endeavour to improve the trident of sustainability, and these efforts have the potential to offer wider benefits beyond the contract farming households or employees that could also be important measures to address general discontent in the regions. Importantly though, these need to be meaningful. In the case of LTH, for instance, while the four villages each receive about 70 USD per year in carbon offsetting revenue through what the company calls the 'village development fund', this is less than the monthly minimum wage for one person and hardly enough to 'develop' a village. With these meagre outcomes, the incentives to support carbon sequestration projects seem very small.

Ultimately, to really be a win-win situation, carbon offsetting projects need to step up their current mechanisms to support affected villages, such as infrastructure building, agroforestry schemes and inclusive job creation, and above all, they need to engage in meaningful and extensive consultation processes that bridge the gap between what is deemed just and fair by the local population and the investors.

THE BURAPHA CARBON OFFSET PROJECT

LM deal ID: 8058 | VCS ID: 2367

Concession area:	68,800 ha
Concession duration:	30 years, with 20 years optional
Production area:	6,000 ha
Operational since:	1990
Carbon offset area:	3,536 ha
VCS registration:	08/03/2023
VCS crediting period:	31/05/2016-30/05/2036
Estimated annual emissions reduction:	44,946 tCO ₂ -e
Investors:	95% Swedish investment company (Silvicapital subsidiaries SilviLao AB and BAFCO Invest AB) and 5% Lao shareholder (Mrs Souphayvanh Thiengchanhxy)
Production:	Eucalyptus plantations with attached sawmill, plywood mill, and furniture factory
Agroforestry:	First and occasionally second year intercropping of rice or other; from third year onward grazing (production cycle of seven years)

THE LAO THAI HUA RUBBER CARBON OFFSET PROJECT

LM deal ID: 10036 | VCS ID: 1684

Concession area:	16,000 ha
Concession duration:	30 years, with 5 years optional
Production area:	24,000 ha (9,000 ha concession area, 15,000 ha contract farming)
Operational since:	2008 (carbon project)
Carbon offset area:	661 ha
VCS registration:	16/05/2017
VCS crediting period:	08/07/2008-07/07/2038
Estimated annual emissions reduction:	36,916 tCO ₂ -e
Investors:	Honda, Jieng Xieng, Thai Hua Rubber Public Company (the latter was acquired by Guangdong Guangken Rubber Group Co., Ltd in 2016)
Production:	Rubber
Agroforestry:	Intercropping rice or cassava allowed during the first two years; animals can be grazed starting in year two. Tapping usually starts after seven years

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