

- Extension of deforestation prevention
- using land use monitoring and valuation in Cote d'Ivoire



Case Study

July 2021

Contents

1	Project overview	3
2	Solution development/journey	8
3	Project objectives	12
4	Sustainability model	14

List of tables

Table 1	Summary of results from endline evaluation of the pilot project	6
Table 2	Core users	14

List of figures

Figure 1.	IMAGES' land use cover is readily available on the platform	9
Figure 2	Forest disturbances EWS in IMAGES.....	10
Figure 3.	The deforestation risk index provides users with information on the likelihood of a forested area to disappear in the next year	11
Figure 4	The links between outputs, outcomes and impacts	12

List of boxes

Box 1	Project partners.....	4
Box 2	Sustainability plan overview	14

1 Project overview

Context

Cote d'Ivoire has one of the highest levels of deforestation in sub-Saharan Africa. Its forest cover decreased from 16 million ha in 1900, to 7.8 million ha in 1990, 5.1 million ha in 2000, and 3.4 million ha in 2015 (SEP-REDD, 2016). According to these estimates, more than 80% of the forest disappeared during the last century, at an average rate of 250,000 ha per year, a rate which persists recent years.

Agricultural expansion, and the exponential growth of export crops in particular, has been the main driver of deforestation in Côte d'Ivoire. In 1969, agricultural land had expanded into 5.5 million ha of forest areas. Today, this has grown to 12 million ha. Currently, primary forests and plantations represent a small part of the total forest cover – 6% and 3% respectively. Most of the remaining forest cover is composed of natural modified forests (91%) (Climate Investment Funds, 2016).¹

In 2019, primary forest accounted for only 9%, 3,05 million hectares, of Côte d'Ivoire. In comparison, it accounted for 15% of Côte d'Ivoire's territory in 1986.² The 2019 land use inventory performed by the project team recorded 3,05 million hectares of primary forest, most of which is highly fragmented. Comparable figures for commodity crops are 2,8 million hectares of cocoa and 1,6 million hectares of cashew.

According to the Government of Côte d'Ivoire, the prominent direct causes of deforestation at the national level are:

- expansion of extensive agriculture (62%);
- uncontrolled exploitation of forests, especially in classified forests, but also to a lesser extent in protected areas (18%);
- infrastructure extension (10%);
- gold mining (8%);
- forest fires (2%).³

The decreasing amount of land covered by forests has affected ecosystems, with negative impacts on soil productivity, water provision, carbon storage and carbon sequestration. Additionally, it has dramatically reduced biodiversity.

Project Summary

The Project uses satellite imagery with advanced spatial analysis and economic valuation tools, and the development of natural capital accounts to map and quantify the economic and ecological value of land. It has three main components:

- **a national land-use inventory** that classifies and differentiates physical surface cover types in space. The land use inventory offers a substantial improvement in spatial and temporal resolution as well as overall utility compared to the maps and the tools currently used in Côte d'Ivoire.

¹ Natural modified forests are forests which have been disturbed at some point.

² Food and Agriculture Organisation and SEP-REDD+. (2015). Données forestières de base pour la REDD+ en Côte d'Ivoire.

<http://www.fao.org/3/ai8047f.pdf>

³ https://www.nitidae.org/files/b24e760c/161216081210_161214_analyse_facteurs_def_deg_ci_rapport_final.pdf

- a **national natural capital valuation framework** which identifies areas most at risk of deforestation ('deforestation risk index') and quantifies the social value of land use services by combining land use inventories with natural capital valuation. This helps policymakers to take informed land use management decisions that consider the social costs and benefits of different options.
- a **national forest disturbances early warning system (EWS)**, which helps to build effective governance through a fortnightly forest disturbance warning system, based on radar images. This improves detection of illegal activities and enables timely enforcement on the ground, helping to limit total tree loss and improve control of forest resources by preventing further expansion. It is a key element of deforestation prevention since widespread deforestation generally starts from small-scale disturbances, whose early detection would assist the relevant authorities in making timely and more effective interventions. It also supports a more evidence-based strategy for forest protection to be developed at regional and national level.

The Project is a geographic expansion of 'Deforestation prevention with land use monitoring and valuation in Cote d'Ivoire' from the Emissions Reduction Programme Region (ERP) region in the South West of Côte d'Ivoire to the whole of Côte d'Ivoire. Between 2017 and 2019, Vivid Economics created a tool (IMAGES), comprised of a land use inventory, a natural capital valuation framework, and an EWS for the ERP in the South West of Cote d'Ivoire ('pilot project'). The tool created during the pilot project, is currently being used by different stakeholders involved in Côte d'Ivoire's forests. The endline evaluation of the pilot project concluded that IMAGES had contributed to avoiding 3,342 hectares of deforestation and that 7 people were using the tool for direct forest management, and a further 12 people in 6 different organisations where regularly using the tool. However, many of these stakeholders have national mandates and a regional tool limits its potential utilisation and hence the potential impact. Therefore, the Project expanded IMAGES to the whole of Côte d'Ivoire, in order to have the most effective tool to reduce deforestation.

The key partners for the project are Vivid Economics, RSAC and Capitaine Kouman. Vivid Economics leads the work and is responsible for natural capital valuation tool, as well as the integration of the tool and approaches into policy decision making. RSAC specialises in processing satellite imagery while Capitaine Kouman is the project's representative in Cote d'Ivoire. In the pilot project, IMPACTUM, a local NGO, was the project's representative and were replaced by Capitaine Kouman, who has a deeper understanding of forestry policy, for the extension.

Box 1 Project partners



• **Vivid Economics** is a strategic economics consultancy spanning public policy and support for commercial decision making with a broad, international focus. Vivid has developed and applied innovative approaches to value ecosystem services and natural capital that have led to better decisions about land management. Our analysis of the interface between policy and natural capital is amongst the best in the world. We apply robust economic analysis and have expertise in cutting-edge modelling techniques to value natural capital.

- **Capitaine Kouman** is an expert in Côte d'Ivoire forest policy and mapping through his work as a civil servant in the MINEF (Ministry of Water and Forests) and his academic experience working with remote-sensing data.



• **Remote Sensing Applications Consultants Ltd (RSAC)** has been working internationally on the research and development of Earth Observation applications for more than 30 years with funding from the European Space Agency, EU and UK Government. Interest is currently focussed on the exploitation of game-changing developments in the availability of Copernicus satellite data and cloud-based analysis tools. The company achieves successful outcomes working closely with users to address very specific

requirements, helping to develop solutions that can in future be operated independently. UKSA IPP funding is particularly important in furthering these international activities.

The Ministry of Planning and Development is in charge of maintaining the IMAGES tool. As the Ministry is in charge of maintaining the tool, it updates the online platform every 12 days, it also answers queries about the tool from other stakeholders.

The project is funded by the UK Space Agency's International Partnership Programme (IPP). The UK Space Agency's International Partnership Programme (IPP) is an award-winning >£150 million space for sustainable development initiative which utilises the UK space sector's capabilities in satellite technology and data services to deliver measurable and sustainable economic, societal and/or environmental benefits in partnership with developing countries. Since 2016, IPP has grant-funded 43 projects in 47 countries across Africa, Asia-Pacific and Latin America to develop space-based solutions which tackle global development challenges such as climate and disaster resilience, food security, maritime issues, disease forecasting, and improving access to financial services, whilst facilitating new trade opportunities for the UK space sector.

IPP is funded from the Department for Business, Energy and Industrial Strategy's (BEIS) Global Challenges Research Fund (GCRF). This £1.5 billion Official Development Assistance (ODA) fund supports cutting-edge research and innovation on global issues affecting developing countries. ODA-funded activity focuses on outcomes that promote long-term sustainable development and growth in countries on the OECD Development Assistance Committee (DAC) list. IPP is ODA compliant, being delivered in alignment with UK Aid Strategy and the United Nations' (UN) Sustainable Development Goals (SDGs).

Impact

The Project was found to be highly relevant and effective. IMAGES clearly supports current national policies, as well as contributing to new policies. Stakeholders in the private sector, NGOs and the government have explicitly committed to using IMAGES as the Cocoa and Forest Initiative's forest monitoring system and of REDD+ process with the World Bank. Most of the targets set out in the logframe, have been achieved and in some instances greatly surpassed, demonstrating the effectiveness of the Project.

Although it is too soon to estimate the impact in terms of avoided deforestation, the project has been found to have a big impact on beneficiaries. It has truly started a decade-long structural change in the forestry sector of which it will only be possible to see the full extent of change in future years. The Project is set up to be sustainable, the upkeep of the tool has been successfully done by the Ministry of Planning and Development (MPD) and stakeholders are using it independently.

More precisely, the Project outputs have allowed policy makers to design more precise and targeted policies. IMAGES has enabled a better understanding of land use and land use changes which has helped MINEF start a forest conservation programme in rural areas. It is also able to make an efficient use of its Special Intervention and Surveillance Brigade (BSSI) to support regional teams, and to request financing to purchase drones. The Ivoirian Parks and Reserves Office (OIPR) is now able to formulate outreach programmes by targeting villages that are near deforestation hotspots.

There is a greater sense of accountability in the forestry industry. MINEF is now able to require results after disseminating information on alerts and hold the Forest Development Society (SODEFOR) accountable by enquiring on the unsatisfactory results in gazetted forests. NGOs such as Wild Chimpanzee Foundation have used IMAGES to push SODEFOR to carry out verification missions. The SEP-REDD has finally accepted to use IMAGES as part of its Monitoring, Reporting and Verification (MRV) infrastructure. Earth has also raised awareness on the deforestation trends after launching their Cocoa Accountability platform based on IMAGES data. As a result, the private sector companies have decided OIPR to improve their traceability system, and Cocoa and Forest Initiative decided to adopt IMAGES to materialise its commitments.

IMAGES is currently being used by 40 different organisations. A wide range of government agencies are currently using IMAGES, alongside civil society organisations. More importantly, with the Cocoa and Forest Initiative adoption of IMAGES, 35 private companies are starting to use IMAGES by overlaying it with their supply chain maps to ensure deforestation free cocoa. Over the course of the Project, different government stakeholders carried out 18 missions to verify causes of deforestation alerts and prevent further losses.

The Project has been efficient throughout. It has been a cost-effective way of achieving the outcomes and outputs set out in the logframe. Each deliverable was delivered in line with the budget allocated.

Over the course of the Project and through stakeholder interviews the project management team has drawn out a number of good practices that they will keep doing and recommend for other projects:

- including stakeholders at all stages of the project;
- having regular in-country engagement;
- building in-depth relationships with key individual stakeholders;
- involving the UK Ambassador to Cote d'Ivoire;
- creating hard deadlines for local stakeholders to push things forward;
- sending monthly newsletters;
- tailoring workshops to the audience;
- developing a technical tool that is easy to use and maintain.

Impact of the pilot project is summarised in Table 1.

Table 1 Summary of results from endline evaluation of the pilot project

Outcome / Impact	Indicator	Target	Result in March 2021
Impact 1: avoided deforestation in Côte d'Ivoire	Deforestation avoided in hectares	NA	NA ⁴
Outcome 1: anticipate and prevent deforestation	Coverage of patrolling teams (% ha)	50%	70%
Outcome 2: prioritise areas for conservation	IMAGES used in a conservation strategy	Yes	Yes
Outcome 3: enhance supply chain traceability	IMAGES used in private sector processes to look at deforestation risk of where they are buying from	Yes	Yes
Outcome 4: increased capacity of organisations and people in using space expertise	Individuals and organisations using the tool	39	51

⁴ There is not enough data to compare to the 2019-2020 reference scenario.

Source: Vivid Economics

The pilot project was also assessed more generally on questions relating to the efficiency, effectiveness, relevance and sustainability; and was found to be highly relevant and effective, impactful and sustainable, and efficient throughout. IMAGES clearly supported current national policies, as well as contributing to new policies. Stakeholders in the private sector, NGOs and the government are using the tool. The targets set out in the logframe, were achieved and in some instances greatly surpassed, demonstrating the effectiveness of the project. In the pilot project area, deforestation rates were smaller than in previous years, suggesting that the pilot project contributed to avoiding more forest loss than expected, and has had a big impact on the people and organisations involved. It has truly started a structural change in the forestry sector of which it will only be possible to see the full extent of change in future years. The pilot project is set up to be sustainable, the upkeep of the tool has been successfully done by the MPD and stakeholders are using it. It has also been a cost-effective way of achieving the outcomes and outputs set out in the logframe. Each deliverable was delivered in line with the budget allocated, sometime including additional pieces of work not included in the original plan.

The overall aim of the project is to reduce deforestation which in turn would lead to a positive impact on the following SDGs:

- Goal 13: Take urgent action to combat climate change and its impacts
- Goal 15: Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss
- Goal 6: Ensure availability and sustainable management of water and sanitation for all
- Goal 2: End hunger, achieve food security and improved nutrition and promote sustainable agriculture

2 Solution development/journey

From the outset, the project placed emphasis on stakeholder engagement and iterative consultation. Before the start of the project, the team identified the key stakeholders involved in forestry and cocoa-related activities that could benefit from a land use planning tool focusing of forest cover monitoring. The kick-off meeting took place in Abidjan, where the team presented a detailed work plan, covering the proposed methodology and activities, as well as ideas for the platform design to the selected stakeholders. The kick-off phase allowed them to establish their expectations from the project.

To ensure that the solution was built iteratively, the team visited Côte d'Ivoire approximately every six weeks to meet with local stakeholders, except since the start of the pandemic. These visits served to update stakeholders on the progress of the tool, demonstrate latest IMAGES features and follow-up on the training stakeholders had received. They also enabled stakeholders to provide feedback on the Project and the tool, and providing an indication on whether the tool was being appropriated. The feedback would then be incorporated to the technical work, when feasible. For example, the deforestation risk index was elaborated off the basis of stakeholder feedback. Building on such stakeholder feedback, the team built and tested the solution in an iterative manner. During the pandemic, meetings took place on Zoom and in person via Vivid Economics' local consultant, Capitaine Kouman.

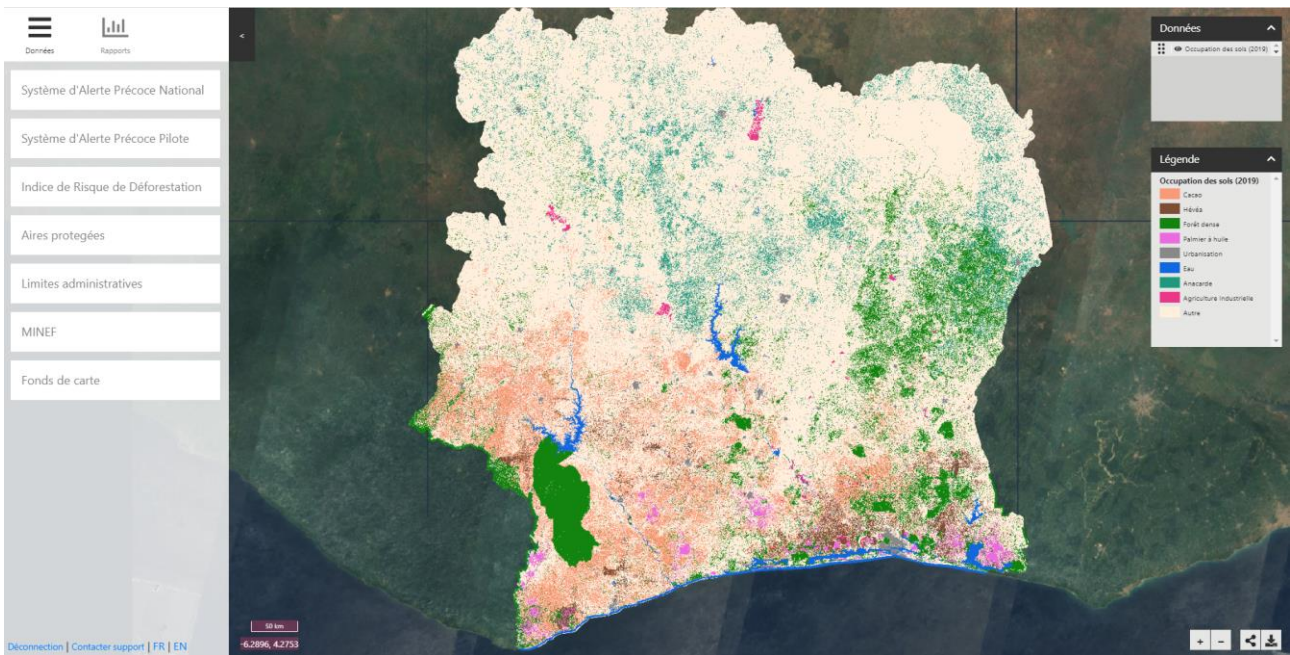
The final output (IMAGES), is soon to be handed over in a formal ceremony with all key stakeholders. After having transferred source codes and methodologies to key stakeholders during capacity building workshops, the tool is expected presented at the official handover ceremony, with the Minister of Planning and Development. The team is also expected to publish its third report on State and Trends of deforestation in Côte d'Ivoire, which analyses the data created by the project assess the latest forest loss trends across administrative regions and protected areas. Past reports have been widely used as example of the tool's different end-uses.⁵

The final technical solution is an online interactive platform in which users can visualise and overlay different land use layers, from land use classification to early warning system and a deforestation risk index. The online platform, called IMAGES, allows user to visualise the different layers created throughout the project, with the help from local stakeholders:

1. **Land use inventory that classifies and differentiates vegetation across space.** The land-use inventory was produced by RSAC and classifies and differentiates physical surface cover types in space. The land use inventory offers a substantial improvement in spatial and temporal resolution as well as overall utility compared with maps currently used in Côte d'Ivoire. The inventory is now part of IMAGES.

⁵ <https://www.vivideconomics.com/wp-content/uploads/2020/07/State-and-Trends-of-Deforestation-in-Cdl-1.pdf>

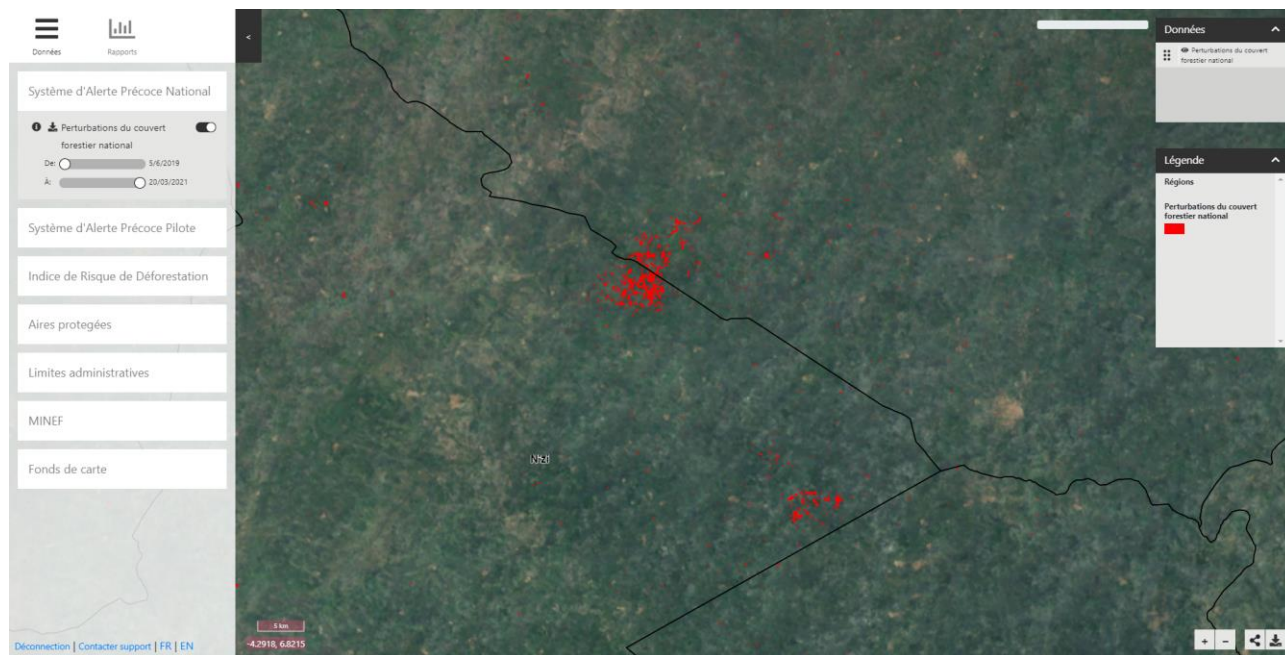
Figure 1. IMAGES' land use cover is readily available on the platform



Source: Vivid Economics

2. **Forest disturbances early warning system (EWS)**, which helps to build effective governance through a fortnightly forest disturbance warning system, based on radar images. The resultant change maps improve detection of illegal activities and allow timely enforcement on the ground, helping to limit total tree loss and improve control of forest resources by preventing further expansion. It is a key element of deforestation prevention since widespread deforestation generally starts from small-scale disturbances, whose early detection would assist the relevant authorities in making timely and more effective interventions. The EWS is available under different forms depending on the type of actor that is using it and their technical expertise. In order to facilitate field work and reduce the number of manipulations, agents on the ground can use EWS as a GPX file for direct input in their GPS. For policy makers, EWS data is available as statistical reports on the platform or in .csv. For remote sensing experts, EWS is available as a raster.

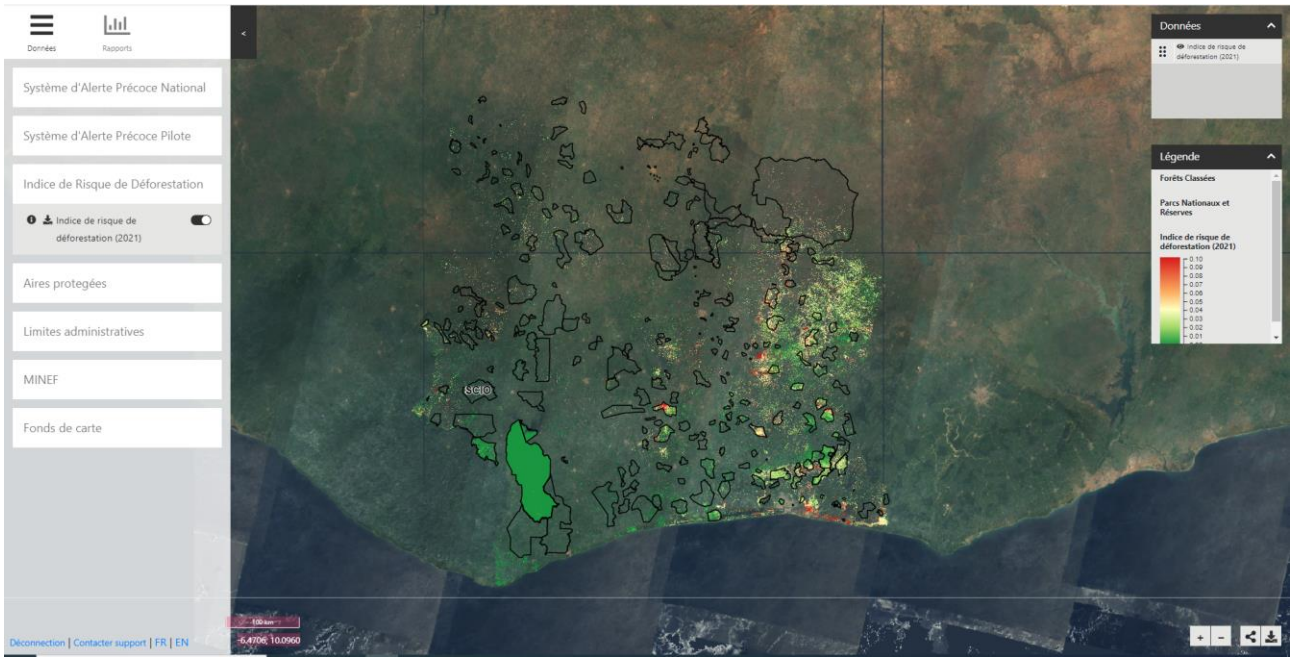
Figure 2 Forest disturbances EWS in IMAGES



Note: Red dots show where deforestation alerts have been recorded since June 2019
 Source: Vivid Economics

3. The Deforestation Risk Index (DRI) identifies areas with high risk of deforestation in the next year. It embeds a machine learning model trained on a combination of deforestation data from the pilot Early Warning System (EWS), the national EWS and several Earth Observation features. The DRI estimates from previous deforestation trends the expected share of deforested area on every 100m x 100m cell of Ivory Coast in 2021. The main drivers of deforestation are some terrain and climatic characteristics that are time invariant and previous deforestation patterns. We exploit the time series of deforestation in South West Ivory Coast to estimate the likelihood of future deforestation based on past events. Using then the national observed disturbances for the year 2020 as inputs for the trained model, we estimate the expected deforestation in 2021.

Figure 3. The deforestation risk index provides users with information on the likelihood of a forested area to disappear in the next year

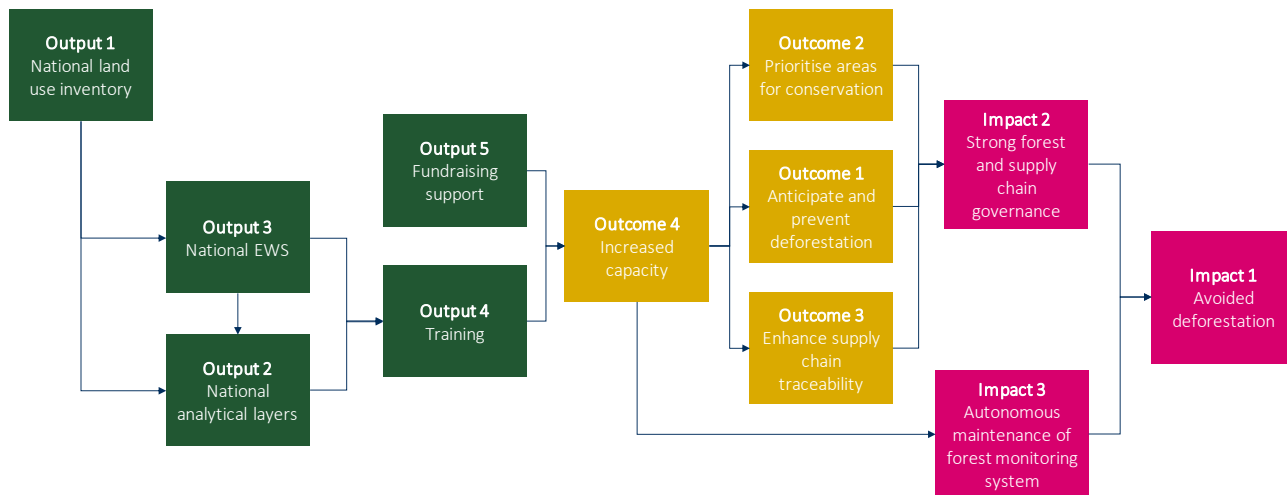


Source: Vivid Economics

3 Project objectives

The project's original aims were to avoid deforestation, the way in which this was achieved is summarised in Figure 4 and described below.

Figure 4 The links between outputs, outcomes and impacts



Source: Vivid Economics

The consortium produced maps, trained partners to update and use them and assisted partners in securing funds to sustain the tool (Outputs 1, 2, 3, 4 and 5). The consortium delivered three sets of layers: a land use inventory, an early warning system and two analytical layers which facilitate land use planning. These tools built on one another. The specifications of this land use inventory (Output 1) were designed to fit into the analytical layers (Output 2) and together they complemented the forest disturbance early warning system (Output 3). The early warning system was delivered in December 2019 (Output 3). The land use inventory was delivered in March 2020 (Output 1). The analytical layers were delivered in September 2020 (Output 2). In addition to the Early Warning System workshop in January 2020, the consortium will organise at least two other workshops to help key partners use Outputs 1-3 and replicate them (Output 4). The workshops will take place in Q1 2020. In addition, the consortium will assist the Ministry in charge of hosting the tool in applying for funding. The consortium to helped the Ministry submit two funding proposals: one to the Government itself and one to an international institution (Output 5).

Training and fundraising support (Output 4 and 5) ensured that the layers produced by the consortium (Output 1-3) were efficiently used, thereby enabling the international partners to change their activities and behaviours (Outcome 1-4). Partners' increased capacity in the use/creation of remote sensing data for their activities (Outcome 4) was key to ensure that Outcomes 1-3 were successfully achieved. Increased capacity provided partners with better evidence base for decision making (Outcome 1-3). For example, the deforestation risk index (Output 2) and the early warning system (Output 3) combine to offer enhanced capacities to partners in anticipating and preventing deforestation (Outcome 1). The land use inventory (Output 1) and the early warning system (Output 3) can be used to prioritise areas for conservation (Outcome 2). These two use cases will, in turn, enhance supply chain traceability (Outcome 3). Combined with training (Output 4) fundraising assistance (Output 5) ensured that the Outcomes 1-4 continue to be delivered beyond the project's lifetime.

The change in the behaviours, activities or outputs of partners contributed to achieving the impact targets of this project (Impacts 1, 2 and 3). The more active steps were taken to tackle deforestation, incentivise conservation of remaining forests and enhance supply chain traceability (Outputs 1-3); the more the tool

contributed to the creation of a strong forest and supply chain governance (**Impact 2**). In parallel, increased capacity to use and create new information, and to request funding (**Outcome 4**) ensured the autonomy and sustainability of a forest monitoring system (**Impact 3**). Combined, **Impact 2 and 3** led the partners to reduce deforestation in the country (**Impact 1**).

4 Sustainability model

Box 2 Sustainability plan overview

1. The national land use inventory, the national analytical layers and the national EWS are provided through the on-line platform ('IMAGES'), royalty-free for the Ivorian Government, the main user, as well NGOs and civil society organisations;
2. Vivid Economics has built capacity within the Ivorian Government through workshops to enable them to maintain and/or upgrade the outputs with or without our help as they wish once the funding is over;
3. Vivid Economics is supporting the Ivorian Government in seeking external funds to cover ongoing costs; and
4. Vivid Economics is aiming to secure contracts with the private sector for the use of IMAGES.

The tool is hosted within the Ministry of Plan and Development (MPD), who is responsible for the maintenance and/or upgrade of the outputs and interface. The SEP-REDD has also been granted access to code and processes of the Early Warning System (Output 3), which was a requirement for it to use the tool for official data.

The other government departments / agencies and NGOs only have access to IMAGES and its data. Each institution has its own account to access IMAGES, and it can add its own data layers by placing a request to the Ministry of Plan and Development. All core users are detailed in Table 2 below.

Table 2 Core users

Type	Stakeholder
Government	Ministère du Plan et Développement (MPD) Ministère des Eaux et Forêts (MINEF) Ministère de l'Agriculture et du Développement Rural (MINADER) Ministère de la Salubrité, l'Environnement et du Développement Durable (MINSEDD) Office Ivoirien des Parcs et Réserves (OIPR) Société de Développement des Forêts (SODEFOR) Conseil Café Cacao (CCC) Bureau National d'Etudes Techniques et de Développement (BNETD) Secrétariat Exécutif REDD+ (SEP REDD+)
NGOs	Impactum EtcTerra World Chimpanzee Foundation Mighty Earth World Cocoa Foundation
Development agencies	IDH GIZ

Education	CURAT (Université de Cocody)
-----------	------------------------------

Source: Vivid Economics

For private sector companies that wish to use IMAGES, possibly as part of commitments they make under the Cocoa and Forest Initiative, they will have to pay a fee. The Cocoa and Forest Initiative wishes to select a forest monitoring system by Q4 2020, for private companies and the Government to monitor deforestation in Côte d'Ivoire. IMAGES has been shortlisted, alongside Airbus' Starling system.

There is potential to replicate the tool in West Africa and South America, particularly in the West African countries seeking to develop their MRV infrastructure.

Over the course of the Project and through stakeholder interviews the project management team has drawn out a number of good practices that they will keep doing and recommend for other projects:

- **Including stakeholders at all stages of the project:** the project management team engaged with local stakeholders from the outset, introducing the tool, consulting with stakeholders, gathering feedback and making sure that the tool was adapted to match their needs. The stakeholder questionnaires highlighted that there is a strong desire to be part of the project from inception to completion. They wish to feel like they master the project, and that they are part of it in order to adopt the tool.
- **Having regular in-country engagement:** the project was not just about developing a technical tool, it was also an engagement exercise. Both parts are just as important. Engagement was key to creating and maintaining excitement and traction around the project. Pre-Covid, the project manager visited approximately every 6 weeks, meeting with stakeholders in government, NGOs and the private sector. This has created significant awareness of IMAGES, as well as a sense of trust, in Côte d'Ivoire for actors around the forestry sector and beyond.
- **Building in-depth relationships with key individual stakeholders:** through regular country visits, the project manager got to know some key stakeholders very well. This was important to learn what they are trying to achieve with their job and how IMAGES could help. It was also key to understanding the dynamics in government where there can be subtle competition between different departments / agencies. This was invaluable to improving stakeholder engagement, through understanding their individual agendas and how best to reach stakeholders to maximise the uptake and impact of IMAGES
- **Involving the UK Ambassador to Cote d'Ivoire:** in hierarchical society such as in Cote d'Ivoire, the Ambassador has a lot of weight and her involvement in the project was important to raise its profile. She regularly mentioned IMAGES to ministers when she had meetings with them. She was instrumental in getting meetings with ministers for the project team to present the project and gain high-level stakeholder buy-in. Her presence at the official handover of the tool incentivised ministers and important people to come to the ceremony and made the occasion media worthy, again raising IMAGES' profile. The Ambassador's help was needed to get the first Memorandum of Understanding (MoU) signed by the Ministry of Planning and Development and get the project started. Finally, the involvement of the Ambassador and the British Embassy provided a security for the staff going over to Cote d'Ivoire, if anything were to happen the project team could rely on them to help, which greatly reduced the risks of extensive stakeholder engagement.
- **Visiting different forests:** the project manager went to visit forests on a few different occasions to verify alerts. This was also an opportunity to demonstrate to the different teams managing forests on the ground that the tool worked and how it worked. Finally, this increased the project management's legitimacy in the eyes of people working on the ground, which is key to ensuring the uptake of the tool.

- **Creating hard deadlines:** in order to keep the project moving and sometimes push stakeholders to make decisions, the project team created external deadlines as a means of pressure. This was found to be necessary on a number of occasions, such as for the signing of the MoU to start the project or the official handover of the tool in a public ceremony.
- **Sending monthly newsletters:** the project manager wrote regular newsletters providing updates on the project and its developments as well as trends in deforestation. This was important to maintain interest while she was not in Côte d'Ivoire, keeping momentum and awareness high. It was also important to show that the tool was going to be used and that it was going to be useful.
- **Tailoring workshops to the audience:** the project team learned from the first set of workshops and improved them greatly. It is important that the workshops are in French. Unfortunately, the first set of workshops were delivered in English which impacted participants' satisfaction. After this, all workshops were delivered in French. It was also important to target the information to the participants and have a very interactive workshop. This ensures that the participants get the most of the workshop and do not tune out missing the important parts. This was also taken into account for the workshops following the first set.
- **Developing a technical tool that is easy to use and maintain:** an important factor in the successful uptake of IMAGES has been that the platform is very user friendly, it is easy to use and highly intuitive. Additionally, the maintenance is also very straightforward thanks to a high degree of automation. Because the technical requirements were small, the handover was smooth.

The Project has demonstrated that the depth of the change it has brought around will take time to be visible.

The full impact that the Project has will be difficult to assess before around three years in the public sector. The changes that it is helping make in the management of forests entail numerous other shifts: some of which are relatively simple, such as buying more GPS, others are far more complex, such as holding agencies to account. Even the simple changes require additional budget which can only be requested when budgets are up for negotiations, and then need to be approved. On the private sector side, change will take even longer, they are not currently under enough pressure to change to actually modify the way they operate to preserve forests.

The 2022 legacy evaluation will focus on estimating the actual avoided deforestation between 2019-2020 reference levels and 2020-2021 results. This final reporting will include stakeholder interviews to assess to what extent they have been using IMAGES, and to what end.

Company profile

Vivid Economics is a leading strategic economics consultancy with global reach. We strive to create lasting value for our clients, both in government and the private sector, and for society at large.

We are a premier consultant in the policy-commerce interface and resource- and environment-intensive sectors, where we advise on the most critical and complex policy and commercial questions facing clients around the world. The success we bring to our clients reflects a strong partnership culture, solid foundation of skills and analytical assets, and close cooperation with a large network of contacts across key organisations.

Contact us

Vivid Economics Limited
163 Eversholt Street
London NW1 1BU
United Kingdom

T: +44 (0)844 8000 254
enquiries@vivideconomics.com