

Supplemental Materials - FUNDECOR: Visualizing Reforestation

WPI IQP San Jose, Costa Rica C-Term '24

Melina Iannacchione, Cameron Robbins, Brianna Romero, Liv Santurri

March 1, 2024

Table of Contents

A. Literature Review Supplemental.....	3
1. Global Deforestation Continued.....	3
2. Reforestation Initiatives Beyond Costa Rica.....	4
3. FUNDECOR's Farm Profiles.....	6
4. Public Awareness Through a Personal Perspective Continued.....	6
B. Informed Consent Form and Interview Questions - English Translation.....	8
C. Informed Consent Form and Interview Questions - Spanish Translation.....	13
D. Descriptions of Notable Organizations and NGO's.....	18
1. MIDEPLAN.....	18
2. FONAFIFO.....	18
3. SINAC.....	19
4. UNDP.....	19
5. MINAE.....	20
6. PRIAS.....	21
E. Farm Visit Information and Schedule Table.....	22
F. Satellite Images.....	23
G. Supplementary References.....	25

A. Literature Review Supplemental

1. Global Deforestation Continued

Deforestation is a grave concern in many countries such as Brazil, the Democratic Republic of the Congo, and Indonesia. Brazil has seen extreme forest loss in the Amazon Rainforest due to agricultural expansion, logging, and infrastructure development, as shown in Figure 1. In 2022, during the last year of Jair Bolsonaro's presidency of Brazil, the country was responsible for about 43% of the total global loss of rainforests¹. President Luiz Inacio Lula da Silva was inducted in 2023, with hopes to implement a long-term plan for sustainable development to prevent the deforestation of the rainforest. This is not President Lula's first induction, as he also served as Brazil's president from 2003-2010, during which time Brazil's forest loss decreased.

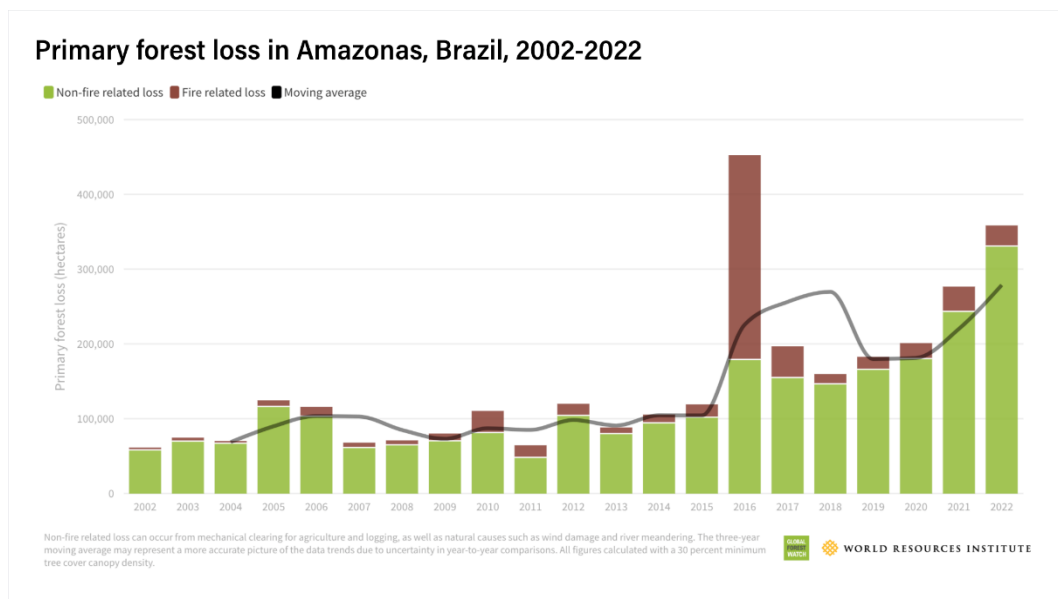


Figure 1: Graph of annual deforestation in the Amazon Rainforest in Brazil from 2002 to 2022, showing the rapid increase of non-fire related forest loss within the last several years to an all-time high¹

In 2022, the Democratic Republic of the Congo lost around half a million hectares of forest, and this forest loss has been steadily increasing since then¹. With the growing population of the Congo, the demand for food is increasing, which is one of the main reasons for agricultural expansion and the conversion of forests to fields. Many local communities live in poverty, and therefore do not have access to electricity, so they rely on firewood obtained from the forests to heat their homes. To address this problem, the Congo has tried improving forest governance, promoting sustainable logging practices, and engaging with local communities to produce a plan to reduce the deforestation of the country.

Indonesia throughout the years has been working towards reducing their forest loss, and they have done so successfully, with the largest decrease in forest loss compared to the countries that have been mentioned previously. Indonesia addressed their deforestation problem by establishing moratoriums on palm oil. These moratoriums were temporary suspensions on new palm oil concessions, which suspended deforestation efforts for palm oil production. They also began promoting sustainable palm oil production practices so that when these moratoriums were lifted, palm oil could still be sold in a more environmentally conscious way. Finally, they increased fire prevention education which decreased the likelihood of wildfires destroying the forests of Indonesia¹.

2. Reforestation Initiatives Beyond Costa Rica

Outside of Costa Rica, reforestation initiatives have been taking place worldwide, from the rainforests of Australia², to the swamps of Bangladesh³, to the forests of Bolivia⁴, to the farmlands of China⁵. A common issue hindering the success of these reforestation initiatives, though, comes from these campaigns focusing too much solely on the environmental outcomes.

The social and economic aspect of these initiatives is just as important as the environmental improvements they wish to accomplish. When social and economic benefit is ignored, it causes the efficacy of these reforestation initiatives to diminish significantly, such as in the case of the first phase of the Chinese Grain for Green (GfG) program, “the largest Payment for Environmental Services program in the world, with the largest investment, greatest involvement, and broadest degree of public participation in history”⁵. The GfG program’s first phase sharply focused on converting farmland to forests without considering an alternative income source for landowners, which boomed reforestation but resulted in a drop in working age population, diminished sustenance sources, and decreased local sources of income in general, leading to public and economic dissatisfaction. The second phase of GfG involved the Chinese government becoming much more invested in increasing farmer income through subsidies and allowing landowners to make more of their own decisions, leading to an increase in satisfaction and continued future success.

Still, two main factors that diminish the efficacy of these types of programs are lack of funding and lack of training on sustainable practices. The lack of financial resources means understaffed programs, and to make up for the vacancies, inexperienced and untrained workers may be hired to fill the gaps⁵. Lack of knowledge on sustainable practices means that these reforestation initiatives are less effective than they would be if staff had been better informed³. With increased monetary support and technical guidance, reforestation initiatives become much more likely to succeed⁴. This is where social reforestation programs help tremendously, such as with Fairventures Worldwide, an organization based in Germany that runs social reforestation programs in Uganda and Indonesia that facilitate sustainable income through public education⁶. Organizations such as this are extremely important, as they provide assistance that will improve

the results of these reforestation initiatives around the world and lead to a healthier global climate and stimulated economy.

3. FUNDECOR's Farm Profiles

Other important and informative collections of data that FUNDECOR oversees are farm profiles. Farm profiles are online detailed databases that include general information about a farm, such as its resources, activities, biodiversity/habitat preservation, and other key details. In terms of environmental impact, farm profiles contain information about biodiversity such as the preservation of natural habitats, implementations of practices that support the wildlife that live around the farm, and agroforestry practices that contribute to carbon sequestration. The farm profiles also contain information about the sustainability practices that the farmers use, namely, crop rotation methods, water management, pesticide and fertilizer use, energy use, and soil conservation⁷. This information can provide the public with quantifiable data that spreads awareness on the efficacy of conservation practices.

4. Public Awareness Through a Personal Perspective Continued

Seeing real people's perspectives of sustainability and conservation would impact the public too. In a case study done in Hainan, China, on the efficacy of a campaign raising public awareness for a critically endangered species, out of 207 interviews, 80% of respondents credited "awareness-raising sources" for providing knowledge about local existence of the endangered species⁸. Even more striking, most of these respondents reported sources including local education sessions, photographs, videos, face-to-face communication, billboards, murals, television, internet, newspapers, brochures, and themed calendars: in short, forms of personal

connections and visual media. There is clearly a personal component to what makes a public awareness campaign effective.

B. Informed Consent Form and Interview Questions- English Translation

Informed Consent Agreement for Participation in a Research Study

Investigators: Melina Iannacchione, Cameron Robbins, Brianna Romero, Liv Santurri

Contact Information: gr-sj24-fundecor@wpi.edu

Title of Research Study: Visualizing Reforestation

Sponsor: FUNDECOR

Introduction

You are being asked to participate in a research study. Before you agree, however, you must be fully informed about the purpose of the study, the procedures to be followed, and any benefits, risks or discomfort that you may experience as a result of your participation. This form presents information about the study so that you may make a fully informed decision regarding your participation.

Purpose of the study:

The purpose of the study is to show the positive impact that FUNDECOR's BIOTA program has had on sustainable farming in the environment and economy of the Sarapiquí region of Costa Rica. We are conducting individual case studies by visiting 5 small farms in Sarapiquí, and we will be creating profiles for each farm that will be published on the BIOTA website. Our research aims to increase local community involvement and raise public awareness about protecting biodiversity.

Procedures to be followed:

We plan to stay on one farm per day (4-5 hours). During this time, we will take a tour of the farm and use a Global Positioning System (GPS) to map the boundaries of the property. Each farm will be extensively photographed and filmed throughout the day. Participants will also be asked to respond to interview questions. Responses will be written down as well as recorded with the audio recording feature of a smartphone. These interview questions are listed below:

1. How would you describe your relationship with FUNDECOR?
2. Do you receive technical assistance or any other support from FUNDECOR?
 - a. If so, please describe
3. What benefits have you seen since working with FUNDECOR?
4. Tell us about your farm.
 - a. What crops do you grow and/or what animals do you raise?
 - b. What animal species are common in your area?
 - c. What are typical plants that grow in your area?
 - d. Have you noticed changes in biodiversity in the area, increase/decrease of species, new/different species, etc.?
5. What are the biggest challenges that you face by farming in this region?
 - a. Do you have access to clean water?
 - b. Do you have access to health services?
 - c. Do you have access to educational resources?
6. What is your view on protecting the environment?
7. What do you do on your farm to protect the environment?
8. If given more money, how would you spend it on your farm?
9. Are you receiving the benefit of the PSA, or have you in the past?

- a. If so, how has the PSA helped you to cover the expenses related to operating your farm?
10. Where does the income to maintain and cover the expenses of your farm come from?
11. Do you have, or have you had in the past, any other source of income coming from alternative activities such sales of different products, entrepreneurship, services offered to community or other landowners and farmers, etc.?
12. Would you consider another type of income other than PSA?

Risks to study participants:

There are no reasonably foreseeable risks or discomfort to the subject.

Benefits to research participants and others:

There are no benefits to the subject.

Record keeping and confidentiality:

Written notes will be transcribed to the website. Audio recordings will also be transcribed and deleted upon transcription. Pictures and/or videos will be published on the website.

We may wish to use a photographic image of you in our report for illustrative purposes only, which will be made available on the Internet through our school's library.

Do you consent to the use of your photographic image in this study? Please check yes or no:

Yes_____

No_____

Records of your participation in this study will be held confidential so far as permitted by law. However, the study investigators, the sponsor or its designee and, under certain circumstances, the Worcester Polytechnic Institute Institutional Review Board (WPI IRB) will be able to inspect and have access to confidential data that identify you by name. Any publication or presentation of the data will not identify you.

Compensation or treatment in the event of injury:

The research does not involve risk of injury or harm. You do not give up any of your legal rights by signing this statement.

For more information about this research or about the rights of research participants, or in case of research-related injury, contact:

FUNDECOR Research Team Email (gr-sj24-fundecor@wpi.edu)

IRB Manager (Ruth McKeogh, Tel. 508 831- 6699, Email: irb@wpi.edu)

Human Protection Administrator (Gabriel Johnson, Tel. 508-831-4989, Email: gjohnson@wpi.edu)

Your participation in this research is voluntary. Your refusal to participate will not result in any penalty to you or any loss of benefits to which you may otherwise be entitled. You may decide to stop participating in the research at any time without penalty or loss of other benefits. The project investigators retain the right to cancel or postpone the experimental procedures at any time they see fit.

By signing below, you acknowledge that you have been informed about and consent to be a participant in the study described above. Make sure that your questions are answered to your satisfaction before signing. You are entitled to retain a copy of this consent agreement.

Study Participant Name (Please print): _____

Study Participant Signature: _____

Date: _____

Signature of Person who explained this study: _____

Date: _____

C. Informed Consent Form and Interview Questions- Spanish Translation

Acuerdo de consentimiento informado para participar en un estudio de investigación

Investigadores: Melina Iannacchione, Cameron Robbins, Brianna Romero, Liv Santurri

Información de contacto: gr-sj24-fundecor@wpi.edu

Título del Estudio de Investigación: Visualizando la Reforestación

Patrocinador: FUNDECOR

Introducción

Se le pide que participe en un estudio de investigación. Sin embargo, antes de aceptar, debe estar completamente informado sobre el propósito del estudio, los procedimientos a seguir y los beneficios, riesgos o molestias que pueda experimentar como resultado de su participación. Este formulario presenta información sobre el estudio para que pueda tomar una decisión plenamente informada con respecto a su participación.

Propósito del estudio:

El propósito del estudio es mostrar el impacto positivo que el programa BIOTA de FUNDECOR ha tenido en la agricultura sostenible en el medio ambiente y la economía de la región de Sarapiquí en Costa Rica. Estamos llevando a cabo estudios de casos individuales visitando 5 pequeñas fincas en Sarapiquí, y crearemos perfiles para cada finca que se publicarán en el sitio web de BIOTA. Nuestra investigación tiene como objetivo aumentar la participación de la comunidad local y aumentar la conciencia pública sobre la protección de la biodiversidad.

Procedimientos a seguir:

Planeamos quedarnos en una granja por día (4-5 horas). Durante este tiempo, haremos un recorrido por la granja y utilizaremos un Sistema de Posicionamiento Global (GPS) para mapear los límites de la propiedad. Cada granja será fotografiada y filmada extensamente durante todo el día. También se les pedirá a los participantes que respondan a las preguntas de la entrevista. Las respuestas se escribirán y grabarán con la función de grabación de audio de un teléfono inteligente. Estas preguntas de la entrevista se enumeran a continuación:

1. ¿Cómo describirías tu relación con FUNDECOR?
2. ¿Recibes asistencia técnica o algún otro tipo de apoyo por parte de FUNDECOR?
 - a. En caso afirmativo, sírvase describir
3. ¿Qué beneficios has visto desde que trabajas con FUNDECOR?
4. Háblenos de su granja.
 - a. ¿Qué cultivos cultivas y/o qué animales crías?
 - b. ¿Qué especies animales son comunes en su área?
 - c. ¿Cuáles son las plantas típicas que crecen en tu zona?
 - d. ¿Has notado cambios en la biodiversidad de la zona, aumento/disminución de especies, especies nuevas/diferentes, etc.?
5. ¿Cuáles son los mayores retos a los que se enfrenta la agricultura en esta región?
 - a. ¿Tienes acceso a agua potable?
 - b. ¿Tiene acceso a servicios de salud?
 - c. ¿Tienes acceso a recursos educativos?
6. ¿Cuál es su opinión sobre la protección del medio ambiente?
7. ¿Qué haces en tu granja para proteger el medio ambiente?
8. Si te dieran más dinero, ¿cómo lo gastarías en tu granja?
9. ¿Está recibiendo el beneficio del PSA o lo ha hecho en el pasado?

- a. Si es así, ¿cómo le ha ayudado el PSA a cubrir los gastos relacionados con la operación de su granja?
10. ¿De dónde provienen los ingresos para mantener y cubrir los gastos de tu granja?
11. ¿Tiene, o ha tenido en el pasado, alguna otra fuente de ingresos proveniente de actividades alternativas como la venta de diferentes productos, emprendimiento, servicios ofrecidos a la comunidad u otros propietarios de tierras y agricultores, etc.?
12. ¿Consideraría otro tipo de ingreso que no sea PSA?

Riesgos para los participantes del estudio:

No existen riesgos o molestias razonablemente previsibles para el sujeto.

Beneficios para los participantes de la investigación y otras personas:

No hay beneficios para el sujeto.

Mantenimiento de registros y confidencialidad:

Las notas escritas se transcribirán al sitio web. Las grabaciones de audio también se transcribirán y eliminarán tras la transcripción. Las fotos y/o videos se publicarán en el sitio web.

Es posible que deseemos utilizar una imagen fotográfica suya en nuestro informe solo con fines ilustrativos, que estará disponible en Internet a través de la biblioteca de nuestra escuela.

¿Está de acuerdo con el uso de su imagen fotográfica en este estudio? Por favor, marque sí o no:

Sí_____

No_____

Los registros de su participación en este estudio se mantendrán confidenciales en la medida en que lo permita la ley. Sin embargo, los investigadores del estudio, el patrocinador o su designado y, bajo ciertas circunstancias, la Junta de Revisión Institucional del Instituto Politécnico de Worcester (WPI IRB, por sus siglas en inglés) podrán inspeccionar y tener acceso a los datos confidenciales que lo identifican por su nombre. Cualquier publicación o presentación de los datos no le identificará.

Indemnización o tratamiento en caso de lesión:

La investigación no implica riesgo de lesiones o daños. Usted no renuncia a ninguno de sus derechos legales al firmar esta declaración.

Para obtener más información sobre esta investigación o sobre los derechos de los participantes de la investigación, o en caso de lesiones relacionadas con la investigación, póngase en contacto con:

Correo electrónico del equipo de investigación de FUNDECOR (gr-sj24-fundecor@wpi.edu)

Gerente del IRB (Ruth McKeogh, Tel. 508 831- 6699, Correo electrónico: irb@wpi.edu)

Administrador de Protección Humana (Gabriel Johnson, Tel. 508-831-4989, Email:

gjohnson@wpi.edu)

Su participación en esta investigación es voluntaria. Su negativa a participar no resultará en ninguna penalización para usted ni en ninguna pérdida de beneficios a los que de otro modo podría tener derecho. Puede decidir dejar de participar en la investigación en cualquier momento sin penalización ni pérdida de otros beneficios. Los investigadores del proyecto se reservan el

derecho de cancelar o posponer los procedimientos experimentales en cualquier momento que consideren oportuno.

Al firmar a continuación, usted reconoce que ha sido informado y da su consentimiento para participar en el estudio descrito anteriormente. Asegúrese de que sus preguntas sean respondidas a su satisfacción antes de firmar. Tiene derecho a conservar una copia de este acuerdo de consentimiento.

Nombre del participante del estudio (en letra de imprenta):

Firma del participante del estudio:

Fecha: _____

Firma de la persona que explicó este estudio: _____

Fecha: _____

D. Descriptions of Notable Organizations and NGO's

1. MIDEPLAN

MIDEPLAN, the Ministry of National Planning and Economic Policy in Costa Rica, plays a critical role in the country's governance and development. As an advisory and technical support body for the Presidency of the Republic, MIDEPLAN is tasked with formulating, coordinating, monitoring, and evaluating the government's strategies and priorities. This includes defining the nation's development strategy, which encompasses medium and long-term goals, and preparing the National Development Plan that translates these strategies into actionable policies, programs, and actions.

MIDEPLAN is also responsible for maintaining an updated and prospective diagnosis of the nation's development. This involves evaluating the impact of government programs and actions, ensuring the application of government priorities in budget allocation, public investment, and international cooperation, and promoting the modernization of public administration.^{9 10}

2. FONAFIFO

The National Forestry Financing Fund in Costa Rica (FONAFIFO), established in 1996, plays a crucial role in promoting sustainable forestry and environmental conservation. It supports small and medium forestry producers in various activities such as reforestation and agroforestry systems. A significant program of FONAFIFO is the Payments for Environmental Services Program (PES), which incentivizes landowners for sustainable land management, funded through various sources including taxes and strategic alliances. The organization also engages in multiple initiatives and partnerships for forestry sector development, focusing on areas like biological corridors and indigenous territories.^{11 12 13}

3. SINAC

The National System of Conservation Areas (SINAC) is a crucial component of Costa Rica's Ministry of Environment and Energy (MINAE). Established in 1994, it combined three former organizations responsible for managing national parks, wildlife, and forestry, into a single entity. SINAC is tasked with administering the nation's national parks, conservation areas, and other protected natural regions.

SINAC manages over 160 protected areas, including 30 National Parks, along with wildlife refuges, biological reserves, national monuments, forest reserves, national wetlands, and protected zones. These areas cover more than 25% of Costa Rica's national territory and are integral to the environmental protection and sustainable eco-tourism policies.

SINAC's conservation areas, such as Arenal Huetar Norte, Tortuguero, Tempisque, and others, protect many ecosystems and wildlife, contributing significantly to sustainable development.^{14 15}

4. UNDP

The United Nations Development Program (UNDP) in Costa Rica plays a significant role in supporting the country's environmental and sustainable development initiatives. One of the notable contributions of UNDP is its support for Costa Rica in securing a substantial financial grant from the Green Climate Fund. This grant, amounting to \$54 million, was awarded to Costa Rica for its achievements in conservation and climate action, particularly for its success in reducing greenhouse gas emissions associated with deforestation during 2014-2015. The funds are earmarked for enhancing the Payment for Environmental Services (PES) scheme, expanding this scheme in indigenous territories, and strengthening forest fire prevention measures in rural communities through the National System of Conservation Areas (SINAC).

UNDP's involvement in Costa Rica also includes efforts towards implementing the country's National Decarbonization Plan, aiming for net-zero emissions by 2050. This aligns with the trajectory of limiting global temperature rise to 1.5 °C. The organization works on adaptation measures to strengthen the country's resilience against climate change effects, focusing on areas such as agriculture, coastal zones, environment, disaster risk management, health, land use, and water management.¹⁶

5. MINAE

The Ministry of Environment and Energy (MINAE) in Costa Rica is responsible for developing and implementing environmental policies related to the protection, sustainable management, and use of natural resources, as well as renewable energy sources. MINAE was established in 1980 as the Ministry of Energy and Mines and underwent several transformations before obtaining its current structure and name in 1995.

MINAE oversees a variety of agencies and departments, each focused on different aspects of environmental and energy management. These include:

- **SINAC (National System of Conservation Areas):** Manages the country's national parks, wildlife refuges, and other protected areas.
- **SETENA (National Technical Environmental Secretariat):** Responsible for environmental impact assessments and environmental regulation.
- **FONAFIFO (National Forestry Financing Fund):** Manages financial mechanisms for forest conservation.
- **CONAGEBIO (National Commission for Biodiversity Management):** Focuses on biodiversity conservation.

- IMN (National Meteorological Institute): Provides weather and climate-related information.¹⁷

6. PRIAS

Programa de Investigaciones Aerotransportadas y Sensores Remotos (PRIAS) is part of the National Center of High Technology (CeNAT) in Costa Rica. It specializes in employing Earth Observation technologies across a broad range of fields, demonstrating versatility and effectiveness in various research and application areas. PRIAS offers a diverse range of services, including research services paid for by clients.

The team at PRIAS is equipped with a variety of tools such as sensors, field equipment, RPAS (Remotely Piloted Aircraft Systems), computer equipment, data centers, and software, enabling them to carry out comprehensive and sophisticated analyses and research. PRIAS collaborates with academic, public, and private sectors.

CeNAT, where PRIAS is based, is recognized for its commitment to quality and its contribution to developing a knowledge-based production system. The center conducts scientific research in various domains, including materials science and engineering, biotechnology, advanced computing, environmental management, and more.^{18 19}

E. Farm Visit Information and Schedule Table

Propietario (Property)	Área de Finca (ha) (Area of farm in hectares)	Área de Bosque (ha) (Area of Forest in hectares)	Día Visita (Day of Visit)	Acompañante (Accompanied By)
Elicinio Flores Porras	9.6	6.5	1/29/2024	Danny Córdoba y Cristian Zúñiga
Juan José Umaña Molina (Ingrid Mabel Quiros Vargas)	10.5	4.4	1/30/2024	Carla Solís
David Reuland (Finca Oasis)	10.8	10.8	1/31/2024	Mario Piedra
Pedro García Rueda	5.9	1.9	2/1/2024	Carla Solís
Isaías Arguedas Arce	14.7	9.6	2/2/2024	Randy Herrera

F. Satellite Images



Figure 2: Satellite image of Reuland's land as it appears on the BIOTA website



Figure 3: Satellite image of Porra's land as it appears on the BIOTA website

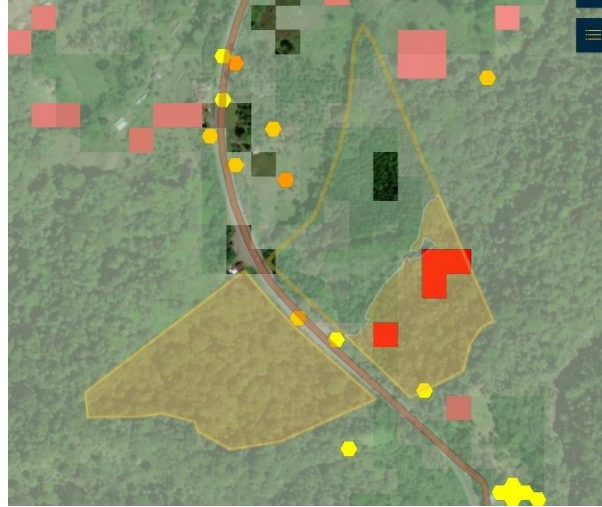


Figure 4: Satellite image of Arce's land as it appears on the BIOTA website

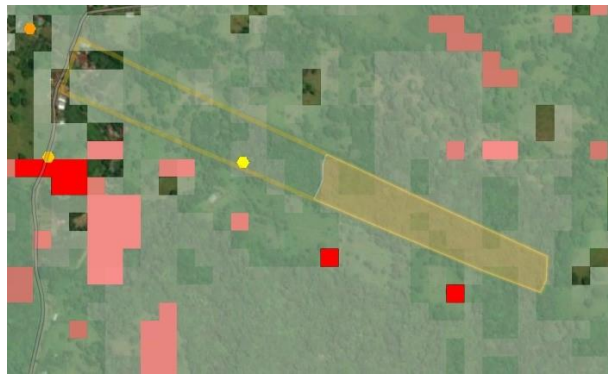


Figure 5: Satellite image of Vargas's land as it appears on the BIOTA website

G. Supplementary References

1. Weisse, M., Goldman, E., & Carter, S. (2022). *Forest Pulse: The Latest on the World's Forests*. World Resources Institute | Global Forest Review.
<https://research.wri.org/gfr/latest-analysis-deforestation-trends>
2. Vanclay, J. K. (2006). Can lessons from the Community Rainforest Reforestation Program in eastern Australia be learned? *The International Forestry Review*, 8(2), 256–264.
3. Sohel, Md. S. I., Islam, H. M. N., Ullah, Md. A., Newaz, K. Md. N., Khan, M. F. A., Sarker, G. C., & Bhuiyan, Md. S. R. (n.d.). Ecological and economic significance of swamp vegetation nursery for successful reforestation program: An insight from Bangladesh. *Geology, Ecology, and Landscapes*, 1–17.
<https://doi.org/10.1080/24749508.2023.2256546>
4. Petinaud, J. (2023, November 12). *Bolivia's Green Lungs Fight Climate Crisis—Prensa Latina*. <https://www.prensa-latina.cu/2023/11/11/pulmones-verdes-de-bolivia-combaten-crisis-climatica>
5. Delang, C. O. (2019). The Second Phase of the Grain for Green Program: Adapting the Largest Reforestation Program in the World to the New Conditions in Rural China. *Environmental Management*, 64(3), 303–312. <https://doi.org/10.1007/s00267-019-01185-4>
6. Fairventures Worldwide. (2023). *Good Forests as Climate Solutions*. Fairventures Worldwide. <https://fairventures.org/en/>
7. Farm Data Management MOOC. (2020). *Lesson 1.2 Farmer Level Data and Farmer Profiling*. GitBook. <https://aims.gitbook.io/farm-data-mooc/unit-1-data-services-and-applications/lesson-1.2-farmer-level-data-and-farmer-profiling>

8. Qian, J., Mills, M., Ma, H., & Turvey, S. T. (2022). Assessing the effectiveness of public awareness-raising initiatives for the Hainan gibbon *Nomascus hainanus*. *Oryx*, 56(2), 249–259. <https://doi.org/10.1017/S0030605320000599>
9. *Ministerio de Planificación y Política Económica (MIDEPLAN) de Costa Rica | Observatorio Regional de Planificación para el Desarrollo*. (n.d.). Retrieved February 21, 2024, from <https://observatorioplanificacion.cepal.org/es/instituciones/ministerio-de-planificacion-y-politica-economica-mideplan-de-costa-rica>
10. *MIDEPLAN – weADAPT*. (n.d.). Retrieved February 21, 2024, from <https://weadapt.org/organisation/mideplan/>
11. UNFCCC. (2020). *Payments for Environmental Services Program | Costa Rica*. United Nations Climate Change. <https://unfccc.int/climate-action/momentum-for-change/financing-for-climate-friendly-investment/payments-for-environmental-services-program>
12. *FONAFIFO - National Forestry Financing Fund—RedLac*. (n.d.). Retrieved February 21, 2024, from <https://redlac.org/en/miembrosredlac/fonafifo-fondo-nacional-de-financiamiento-forestal/>
13. *FONAFIFO | Sitio Web*. (n.d.). Retrieved February 21, 2024, from <https://www.fonafifo.go.cr/es/>
14. National System of Conservation Areas. (2023). In *Wikipedia*. https://en.wikipedia.org/w/index.php?title=National_System_of_Conservation_Areas&oldid=1189055701
15. *SINAC, Costa Rica’s National System of Conservation Areas: Worldwide Model | LAC Geo*. (n.d.). Retrieved February 21, 2024, from <https://lacgeo.com/sinac-costa-rica-conservation-areas>

16. *Costa Rica / Programa De Las Naciones Unidas Para El Desarrollo*. (n.d.). Retrieved February 21, 2024, from <https://www.undp.org/es/costa-rica>
17. MINAE. (n.d.). *Ministerio de Ambiente y Energía*. Retrieved February 21, 2024, from <http://www.minae.go.cr/index.aspx>
18. *PRIAS*. (n.d.). Retrieved February 21, 2024, from <https://prias.cenat.ac.cr/en/>
19. *CeNAT*. (n.d.). Retrieved February 21, 2024, from <https://www.cenat.ac.cr/en/>