DIGIBUILD

D2.2 Report on experts' groups results.

DigiBuild: Building digitalization in the green sector in Honduras and Costa Rica

PRESENTED BY

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Fundación Hondureña de Investigación Agrícola (FHIA)

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Report on Experts' Group Result

I. Introduction

This report is composed in two parts. The first part presents the outcomes of multiple focus group meetings to assess the needs of the cocoa and coffee sectors in Honduras and Costa Rica. The second part presents a Stakeholder Engagement Mechanism, outlining the strategies and processes for involving key stakeholders into the initiative.

The proposal seeks to implement online courses focusing on enhancing the skills of various stakeholders, particularly women. Key topics discussed during the meetings included climate change, water and labor shortages, and new European deforestation regulations. Each country proposed solutions such as the adoption of technology, alternative irrigation systems, reforestation, and training in sustainable production. This report aims to provide a detailed analysis of the conclusions reached to validate the challenges and needs identified in the general report.

Some general proposed solutions by the assistants are: technology implementation, alternative irrigation systems, reforestation, sustainable production training.

The Format of the focus groups was according to the assistant's agenda, leading into:

1. Honduras partners executed the focus group workshops in Hybrid (In-person and Online meeting) format. FHIA executed one workshop online and THINK CORP executed one workshop hybrid.
2. Costa Rica partners, IICA and UCENFOTEC decided to work as a team and execute both workshops online.

All workshops had the following participants:*

- Green Sector Trainers
- Public Sector Stakeholders
- Green Sector Professionals
- Green Sector Labour Market Representatives

* Refer to the annex 1 to review the pictures of the participants of the workshops.

II. A glance to the sustainable agricultural sector in Costa Rica and Honduras

The agricultural sector in Honduras & Costa Rica is vital to the countries' economies and social structures, providing livelihoods to millions, ensuring food security, and generating substantial export revenue. However, it faces numerous challenges, such as climate change and market volatility, necessitating innovative solutions and strategic investments for long-term sustainability and growth.

During the focus group meetings, several critical challenges for the cocoa and coffee sectors, as well as for the green sector in general, in Honduras & Costa Rica were identified. These include difficulties in accessing quality training, identified gender limitations, a lack of supporting associations, a lack of technology and resources for innovative practices, and the need to enhance sustainability and productivity in value chains. (Marketing and Package for example). Additionally, addressing the digital knowledge gap and adapting educational methods to the specific needs of cocoa and coffee producers were highlighted as essential.

The focus group undertook an analysis of key characteristics, with additional details as follows:

Diversity

Honduras & Costa Rica produce a variety of agricultural products, including bananas, coffee, palm oil, melons, and livestock. This diversity bolsters food security and export earnings. To harness this potential, territorial planning is essential for optimal crop yields and productivity.

Small-scale agriculture

Most farms in Honduras & Costa Rica are small, family-owned operations that support rural livelihoods and community development.

Export-oriented

A significant portion of agricultural output is exported, bringing in considerable foreign exchange. Key export products include bananas, African palm, pineapple, coffee, and shrimp.

Growth Potential

With fertile lands, a favorable climate, and a skilled workforce, Honduras & Costa Rica have significant potential for agricultural growth and diversification.

Focus on basic grains

Corn, beans, and rice production is crucial for domestic food security, although there is still a heavy reliance on imports for these commodities.

Climate change

The agricultural sector is significantly impacted by climate change, with frequent droughts, floods, and extreme weather events affecting yields and livelihoods. Technological solutions, such as irrigation systems, are necessary but are often hindered by inadequate advice and high material costs. Also, they don't manage their input with an effective administration because of the lack of education in this area. This causes a bad administration, leading to input shortages when needed.

Limited infrastructure

Poor infrastructure, including roads, irrigation systems, and storage facilities, impedes efficient production, transportation, and marketing of agricultural products. There is an urgent need for government action to repair rural routes and highways to improve accessibility for producers and buyers.

Lack of investment

Insufficient investment in research, technology, and extension services limits productivity and hampers the adoption of sustainable practices. Investment in technology transfer is crucial to ensure the adoption of good agricultural practices.

Market volatility

Global market fluctuations and competition can affect commodity prices, impacting farmers' incomes and making future planning difficult. In Honduras, for example, farmers are not interested in selling the coffee out of their village because they don't see an economic attraction, this is because they only receive a 0.16% of the selling price. This happens because they need a middleman to sell their coffee since they don't have the business and economic education to do it by themselves.

Land tenure issues

Insecure land tenure and access remain major challenges for smallholder farmers, preventing investment and improvement of livelihoods.

Small-scale production

The lack of generational change and qualified labor, coupled with migration, results in production losses and higher labor costs. Technological solutions are needed to reduce labor dependency, and small producers must join organizations to achieve better post-harvest processes and prices.

EU guidelines

Compliance with EU deforestation standards poses several challenges for small producers, including limited technical and financial capabilities, difficulties in obtaining certifications, and reliance on intermediaries. Alternatives such as identifying markets like China or other Asian countries that do not have these requirements are proposed.

Youth participation in agriculture

There is a growing interest among young people in agricultural work. To address this, it is essential to generate impact through schools and community education, incorporating topics such as reforestation, climate change, and forest conservation into academic curricula.

Some of the additional characteristics and challenges identified:

Characteristics	Challenges
Diversity	**Climate change**
Wide range of products including bananas, coffee, palm oil, melons, and livestock	Frequent droughts, floods, and extreme weather events affect yields and livelihoods. Technological solutions are required.
Small-scale agriculture	**Limited infrastructure**
Family-owned and operated farms contribute to rural livelihoods	Poor roads, irrigation systems, and storage facilities hinder efficient production and marketing.
Export-oriented	**Lack of investment**
Significant portion of production is exported, generating foreign exchange	Insufficient investment in research, technology, and extension services limits productivity.
Growth potential	**Market volatility**
Fertile lands, favorable climate, and skilled workforce	Global market fluctuations affect commodity prices and farmers' incomes.
Focus on basic grains	**Land tenure issues**
Crucial for domestic food security, though reliant on imports	Insecure land tenure prevents investment and livelihood improvements.
Small-scale production	**Small-scale production challenges**
Supports rural livelihoods, but lack of generational change and labor issues cause losses	High labor costs and reliance on intermediaries; need for technological solutions and better post-harvest processes.
EU guidelines compliance	**Youth participation in agriculture**
Compliance with EU standards poses technical and financial challenges	Declining interest among youth; need for educational initiatives in schools and communities.

III. Focus Groups Results

Focus Groups Methodology

Between both countries the focus groups were driven by a moderator orientated to engagement of the participants including in-person and online attendees. The moderator made a series of guided questions with the objective of complementing information of the previous interviews made.

Focus Groups Process

1. Introduction by using the PowerPoint presentation and going through different insights regarding the project.
2. Guided questions which opened to a debate regarding the principal items that led to the gathering of information of: What is already being executed, what should start to be implemented and what should be stopped in each of the items discussed.
3. Summarizing key points of the meeting.

General Findings

The Costa Rica focus groups analyzed the needs of the cocoa and coffee sectors. Key discussions included challenges like climate change, water and labor shortages, and new European regulations on deforestation. Solutions proposed included technology implementation, alternative irrigation systems, reforestation, and sustainable production training.

Honduras' agricultural sector is diverse, contributing significantly to both food security and export earnings.Most farms are small and family-owned, supporting rural livelihoods and community development. Key exports like bananas, coffee, and shrimp generate significant foreign exchange. Fertile land, favorable climate, and a skilled workforce offer growth potential, though the sector heavily relies on imports of basic grains.

The Digibuild workshops were tailored based on expert and participant input. Virtual workshops facilitated participation from rural areas and reduced travel. Dividing workshops by productive groups (cocoa and coffee) encouraged detailed discussions. The workshops began with introductions and an explanation of the methodology, covering the project's duration, objectives, deliverables, scope, stages, participants, and beneficiaries. Competencies and microcredentials essential for understanding the project’s dynamics were explained, followed by a Q&A session.

Challenges in the Agricultural Sector in Honduras and Costa Rica

Climate Change and Limited Infrastructure

Frequent droughts, floods, and extreme weather impact yields, necessitating technological alternatives and irrigation systems. Inadequate roads, irrigation systems, and storage facilities hinder efficient production and marketing.

One of the solutions given in the focus groups for this specific challenge was to introduce community-based climate-resilient farming cooperatives for shared irrigation systems and storage facilities.

Participants believe that under the associations this type of solution could be executed.

Investment and Market Volatility

Insufficient investment in research, technology, and extension services limits productivity and sustainable practices. Global market fluctuations affect prices and farmers' incomes, while insecurity in land tenure hampers smallholder farmers' ability to invest and improve livelihoods.

Under this challenge participants also mentioned the association figure by establishing a cooperative investment and fund supportive through the banking system under this figure. Not getting financial aid by themselves but through their associations.

Production Issues

Small-scale production faces a lack of generational change and qualified labor, leading to production losses. Technological solutions and post-harvest processes are essential. Compliance with European standards on deforestation poses challenges for small producers due to limited resources and complex supply chains.

Youth Participation

Declining interest among youth in agriculture necessitates education and community involvement in reforestation and climate change topics.

Some participants mentioned that most young people in the village are no longer interested in agriculture.. Most of the time when the internet is provided, they use it to engage in other types of activities.

Participants proposed the launching of an agricultural entrepreneurship program for farming practices using new platforms oriented to the young community of the villages.

Labor and Technology

The group emphasized the need for technology implementation to reduce labor dependency. Adoption of new technology is hindered by financing issues. There is a pressing need for technology to manage temperature changes due to climate change.

Internet Access and Digital Literacy

Improvements in rural connectivity are necessary, with an emphasis on responsible screen time use. Online education should be prioritized to enhance digital literacy.

Participants proposed to include into the investment of this platform a plan to deliver internet access to rural areas because a platform in need of the internet will not be a solution if there is no access to it.

Additionally, they mentioned that the problem extends beyond internet access; before introducing the platform, education on how to use the hardware should also be provided.

Inclusion of Women

Creating spaces for female participation in production processes is essential.

Also, participants mentioned moral and civil education of how women are important in society and how education should also be a priority for them too. It is not only an academic problem but also a family guidance one.

Key Findings from Desk Research and Interviews

In addition to the focus groups in Honduras and Costa Rica, interviews with green sector professionals in both countries and research in all countries of the consortium were also carried out beforehand. Some key aspects of the information gathered in these interviews and in the research are highlighted below to help contextualize what was found in the focus groups.

- **High Presence of Small Producers:** Many producers have limited resources and technology.
- **Disparities:** Significant differences in resources, education, and technology access among producers.

- **Technical Assistance:** Public and private support is available but insufficient.
- **Productivity Issues:** Low productivity impacts national production.
- **Digitization Efforts:** Ongoing but needing greater adoption among producers.

For more information on the research carried out by the consortium and the interviews conducted, see result D1.1. Green Sector Current Analysis

Key Limitations in the Green Sector

- **Labor Shortage:** Affects efficiency and productivity.
- **Technology Gap:** Adoption of new technology is hindered by limited finance.
- **Inclusion of Women:** Women are often excluded from training.
- **Lack of Investment:** Limited funds for technology and technical assistance.
- **Internet Access:** Poor quality internet in rural areas limits digital technology adoption.
- **Digital Literacy:** Lack of training in digital skills prevents farmers from using advanced technologies.
- **Agricultural Technology:** Limited adoption due to funding issues and resistance to change.

Additional Discussion and Questions

Participants discussed:

- **Important Elements for the Study:** Detailed exploration of productivity variables.
- **Priority Areas:** Focus on technicians, extensionists, and trainers due to the digital divide.
- **Information Sources:** Utilizing existing materials and standardizing information.
- **Additional Elements:** Importance of reaching extensionists familiar with digital issues.

Digital Gap

In Honduras, the agricultural sector grapples with a significant digital divide, characterized by limited internet access and uneven digital literacy among rural farmers. Many rural areas lack adequate infrastructure for reliable internet connectivity, hindering access to crucial information, market data, and agricultural extension services. This digital gap exacerbates challenges such as climate change adaptation and efficient resource management, which are increasingly critical for sustainable agriculture. Farmers often face difficulties in accessing online educational resources and digital tools that could enhance productivity and resilience against environmental and market fluctuations. Moreover, the disparity in digital skills between urban and rural populations further marginalizes smallholder farmers, limiting their ability to adopt modern farming practices and participate effectively in global supply chains.

Costa Rica, despite its advancements in technology and education, also contends with a digital gap in its agricultural sector, particularly in remote and indigenous communities. While internet penetration rates are higher compared to neighboring countries, disparities persist in rural areas where infrastructure remains underdeveloped. Farmers in these regions encounter challenges accessing real-time market information, agricultural best practices, and online training opportunities that could improve crop yields and sustainability practices. Moreover, the cost of digital infrastructure and services presents a barrier, especially for small-scale farmers who operate on narrow profit margins. Bridging this digital gap is crucial not only for enhancing agricultural productivity but also for empowering farmers with the knowledge and tools necessary to adapt to climate change impacts and contribute to the country's agricultural resilience and food security goals.

In Honduras and Costa Rica, the digital divide is a multifaceted issue influenced by various factors, including:

Income

Access to information and communication technologies (ICTs) requires sufficient financial resources. The cost of the latest technologies can be prohibitive for low-income individuals and households.

Geography (Rural Areas)

Urban areas, with their higher population densities, attract more investment in telecommunications infrastructure and connectivity programs. This often leaves rural areas with limited access.

Age

Younger generations, who have grown up during the technological revolution, are more adept with ICTs compared to older adults, who may face exclusion due to a lack of training or familiarity with these technologies.

Digital Gender Gap

Women are underrepresented in fields related to science, technology, engineering, and mathematics (STEM), leading to lower participation rates and contributing to the digital divide.

Language

A significant portion of online content is in English, creating a barrier for non-English speakers.

Education Level

There is a strong correlation between formal education and the ability to use ICTs effectively. Higher education levels typically lead to better digital literacy.

Employment

In many countries, Internet access is primarily available in workplaces and internet cafes, which may not be affordable for everyone.

Physical Ability

People with disabilities often face digital exclusion. Ensuring they have access to technology is crucial.

Technologies as a Bridge to Close the Digital Gap

According to the majority of answers and comments in the Focus Groups, in the agricultural sector, various technologies can bridge this digital divide and close the gap:

1. **Drones:** Used for soil condition assessment and irrigation, provided by Latitude Solutions.
2. **Irrigation Technologies:** Such as pesticide irrigation systems developed by Solab.
3. **Technological Traps:** Specifically for watermelon and melon crops.

4. **Satellite Technology:** Familiarity with Copernicus for crop monitoring.
5. **Roasting Software:** Technology for roasting protocols.
6. **Coffee Bean Selection Machines:** For sorting coffee beans.
7. **Educational Segmentation:** Producers can be grouped based on their technology proficiency, allowing tailored educational programs to improve their skills accordingly.

IV. Conclusions and Recommendations

Conclusions

- **Relevance of Issues:** Agreement on the importance of identified issues, with a recommendation to include elements on the Green Deal.
- **Focus on Trainers:** Project should target extension agents and trainers to reach producers effectively.
- **Relevant Topics:** Focus on production improvements, standardization and post-harvest processes, and agribusiness management.
- **Resource Identification:** Identify and organize relevant resources for future use, ensuring easy access for trainers.
- **Key Alliances:** Partnerships with institutions like the Ministry of Agriculture, CATIE, EARTH, and technical colleges are crucial for project success.

Recommendations

- **Interactive Tools:** Utilize interactive digital tools, participants mentioned WhatsApp could be a good method for communication.
- **Internet Access Support:** Provide resources or partnerships with local ISPs to improve internet access in rural areas, enabling better participation.
- **Trainer Programs:** Develop comprehensive training programs specifically for technicians, extensionists, and trainers who can then disseminate knowledge to producers, but also home education programs focused on changing the farmer

mentality in which only the boys and men of the family can receive this type of education.

- **Customized Curriculum:** Following with the participant recommendations on dividing the education according to each of the agricultural capacities.
- **Collaboration with Institutions:** Collaborate with institutions like CATIE, ICAFÉ, and others to utilize and align existing good practice guides and training materials.
- **Offline Repository:** Develop a centralized repository of resources, guides, and training materials that trainers can easily access and use without the internet.
- **Application Promotion:** Promote the use of applications like CRCafé, providing detailed training on how to use these tools effectively.
- **Institutional Alliances:** Strengthen partnerships with key institutions like the Ministry of Agriculture and Livestock, CATIE, EARTH, and agricultural technical colleges.
- **Regular Feedback Loops:** Establish regular feedback mechanisms from participants to continuously refine and improve the training programs and materials.

V. Stakeholder Engagement Mechanism

Management Plan Considerations

The project management team, in collaboration with all DigiBuild partners, has delivered a Dissemination plan to promote and communicate with project stakeholders. To properly execute stakeholder engagement throughout the project the following processes and activities are suggested. The stakeholder engagement mechanism has the objective of assuring the involvement and engagement of the stakeholders in the project. The project team and partners are responsible for the correct execution of this mechanism. The key benefit of this execution is to reach a greater number of green sector stakeholders and promote the final product of the project to add value to the green sector community in Honduras and Costa Rica primarily, but this value can be extended to other countries with similar characteristics.

Identify Stakeholders and Their Needs

This process refers to the consistent identification of stakeholders and their needs The key benefit of this process is to include all current and potential stakeholders that will benefit or contribute to the project. The two primary activities to be executed are:

Stakeholder Analysis

This process should be done throughout the project. During and after the execution of all activities it is needed to update stakeholders, their influence and power during the current states of the project, these stakeholders may be but are not limited to sponsors, team members, beneficiaries, community members, etc.

Understand Needs

This activity should be executed through conversation in dissemination events, focus groups, interviews, social media polls and interactions, determining their expectations, interests, and concerns regarding the project.

Communication Strategy

Communication is key in a stakeholder engagement mechanism. The following activities are recommended to promote assertive communication that enables stakeholder engagement:

Regular Updates

As a part of the dissemination plan, infographics, digital newsletter and press releases will be launched regularly through email to keep stakeholders informed of project progress, milestones, and achievements.

Channels

The channels created to disseminate these updates are: email, social media profiles in LinkedIn, Instagram and Facebook, press conferences previous to dissemination events in Honduras and Costa Rica.

Social Media Engagement

Bi-weekly publications in social media profiles are set to share project updates, success stories, and insights. Polls and comments in posts should be motivated to promote stakeholder participation and engagement with publications.

Engagement Activities

Workshops and Events

During the execution of the project to date we have hosted workshops to connect with green sector stakeholders and beneficiaries in Honduras and Costa Rica. Along with this focus groups interviews were held during the first phase of the investigation. Additional dissemination events are planned to promote stakeholder engagement. During all events a feedback survey has been designed to evaluate the quality and value of the events. Some recommendations for workshops and events are, but not limited to:

- Events invitations launched at least 2 weeks prior to the events.
- Participants confirmation to events.
- Personalized invitations.
- Share relevant information about the project and scope of the event.
- Listen to participants' expectations before, during and after the events.

Recognition

Recognition letters and verbal recognition has been planned during events in order to celebrate milestones, achievements, and contributions of stakeholders publicly. Some recommendations to recognize stakeholders and events participants are, but not limited to:

- Participation certificate.
- Recognition stakeholders who gave additional value to the project.
- Badges to highlight specific competencies gained.

Leadership and Sponsorship

Visible Leadership

To ensure stakeholder engagement each partner organization has a visible and accessible project leadership to stakeholders. Each partner organization has designated two representatives to communicate and connect with team and stakeholder needs. Some leadership good practices are:

- Open and assertive communication.

- Ownership and accountability.
- Empathy
- Value driven and data driven decisions.

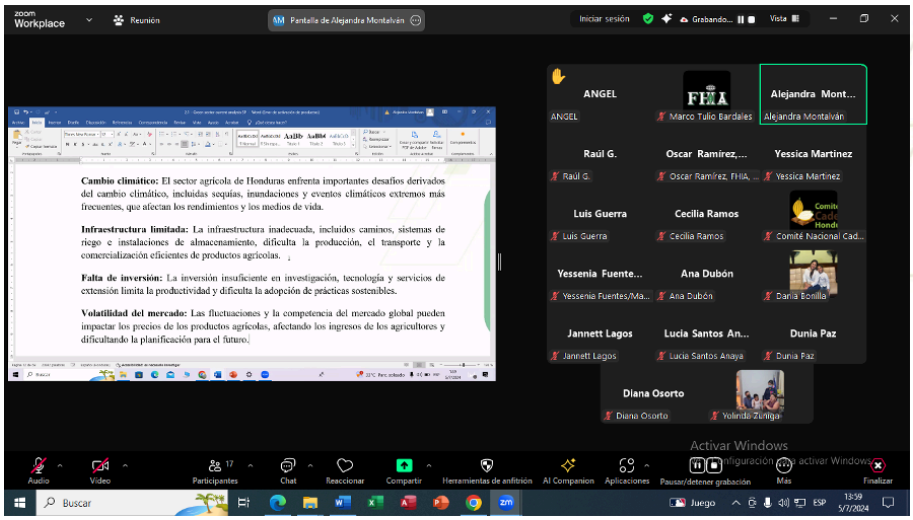
Sponsor Engagement

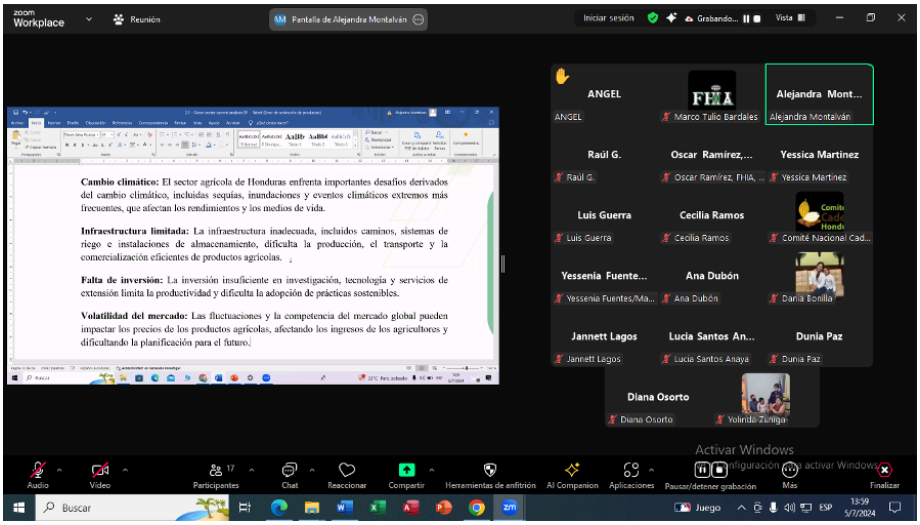
Engage project sponsors actively in stakeholder management efforts to demonstrate commitment and support. Each partner should make connections and develop relationships with key green sector stakeholders in their countries. Some recommended activities to develop relations are but are not limited to:

- Informal Meetings.
- Calls and WhatsApp messaging.
- Focus groups and round table discussions.
- Press engagement.

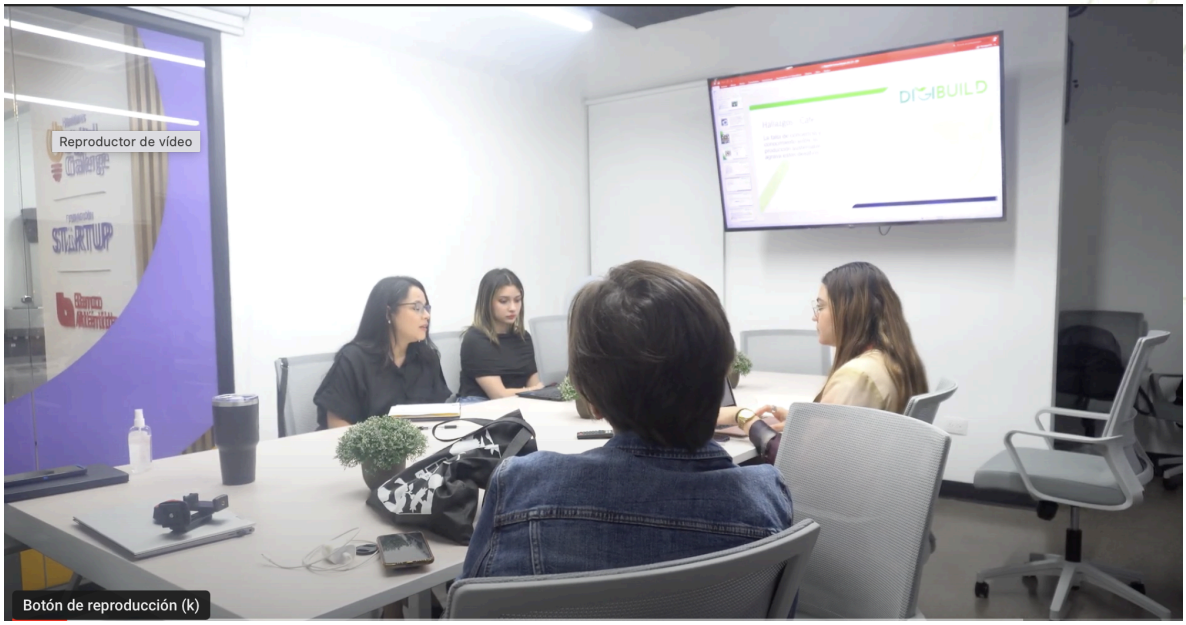
VI. Annex 1

FHIA Focus Group Workshop





Think Corp Focus Group Workshop



IICA and UCENFOTEC Focus Group Workshops

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