

## Resilient Pilots



*Ana Beltrán teaches the women from Quiche the safe use of drones, at Barefoot College installation*

*Hands-on training led by Luis De Obaldia, an instructor from Flying Labs Panama*



*World Food Programme representatives interact with the Qiche's women hands-on training*

OVERVIEW	
<b>Flying Labs</b>	Panama Flying Labs
<b>Location</b>	Guatemala, Nebaj.
<b>Date</b>	10th July to 1st September 2023

<b>Length (number of days)</b>	14 days (5 Workshops)
<b>Sector program (optional)</b>	<a href="#">DevRobotics</a>
<b>Format</b>	Both online and in-person
<b>Co-organizer if applicable</b>	<ul style="list-style-type: none"> <li>● World Food Programme</li> <li>● Barefoot College</li> </ul>
<b>SDGs</b>	<a href="#">GOAL 1: No Poverty</a> <a href="#">GOAL 4: Quality Education</a> <a href="#">GOAL 5: Gender Equality</a> <a href="#">GOAL 8: Decent Work and Economic Growth</a>

SCOPE & OUTCOMES	
<b>Type of training</b>	<ol style="list-style-type: none"> <li>1. Introduction training to drones.</li> <li>2. Technical training of professionals.</li> <li>3. Geography and introduction to GIS.</li> <li>4. Entrepreneurship.</li> </ol>
<b>Goal of the training</b>	<ol style="list-style-type: none"> <li>1. Create drone awareness.</li> <li>2. Develop drone data acquisition skills.</li> <li>3. Train and empower youth and the workforce of the future.</li> </ol>
<b>Expected outcome for participants</b>	<ol style="list-style-type: none"> <li>1. Train women on the use and maintenance of drones, data processing and data analysis.</li> <li>2. Promote an ecosystem around unmanned vehicles and their peripheral services to ensure the sustainability of business opportunities.</li> <li>3. Assist in the formulation of business plans for local entrepreneurship.</li> </ol>
<b>Confirmed outcome after training</b>	<ul style="list-style-type: none"> <li>● 17 women were empowered in the use of drones.</li> <li>● 3 communities represented in the training gained more awareness of the use of technological tools.</li> <li>● Participants gained basic drone maintenance skills.</li> <li>● Participants learned how to create a basic budget for drone services and data acquisition.</li> </ul> <p>The women who actively participated in the training have community projects focused on solar installations and</p>

	<p>maintenance, and organic fertilizer production. Most of them recognized the use of drones in maintaining their projects.</p>
<b>Eventual next steps</b>	<p>We delivered a very illustrative guide for the pilots to continue with their flight practices. It will support the pilots and encourage them to gain skill and confidence in performing their tasks and be ready for future missions.</p> <p>Further, we plan to:</p> <ul style="list-style-type: none"> <li>● Create 15 drone logbook seats housed in the Flying labs Panama space to register flight periods.</li> <li>● Conduct mentoring sessions every 15 days to know about their challenges and lessons learned.</li> <li>● Create workflows for at least four scenarios that simulate the requirement or contracting service with local clients.</li> </ul>

PARTICIPANTS	
<b>Profiles and number of participants</b>	<ul style="list-style-type: none"> <li>● 3 Staff from organizations (non-profit/for-profit/research institutes, etc.)</li> <li>● 14 local community members</li> </ul>
<b>Name of participants' organizations</b>	<p>The participants belong to three different communities of the same department, all communities supported by World Food Programme and Barefoot college.</p> <ul style="list-style-type: none"> <li>● Department: Quiché, City: San Juan Cotzal, Community: Ojo de Agua</li> <li>● Department: Quiché, City: San Juan Cotzal Community: Pexla Grande</li> <li>● Department Quiché, City San Gaspar, Chajul, Xemac, La perla</li> </ul>
<b>Gender ratio</b>	100% female
<b>Who paid for the training?</b>	World Food Programme
<b>Participant fee rate (if applicable)</b>	Not applicable
<b>Scholarships offered?</b>	Not applicable

<b>CONTENT</b>	
<b>Training components</b>	<ol style="list-style-type: none"> <li>1. Identification of local context and opportunities</li> <li>2. Strengthening the pilot network</li> <li>3. Building capacity               <ul style="list-style-type: none"> <li>● Online introduction workshop</li> <li>● Workshop “use of drones and data processing”.</li> <li>● Drone maintenance workshop.</li> <li>● GIS and data analytics workshop.</li> </ul> </li> <li>4. Acceleration and support of entrepreneurship               <ul style="list-style-type: none"> <li>● Business model workshop (in person) to the business model, canvas, and construction of the canvas.</li> <li>● Iteration and online mentoring.</li> </ul> </li> </ol>
<b>Training resources used</b>	<ul style="list-style-type: none"> <li>● Quadrotors drones</li> <li>● Tablets</li> <li>● Cellphones</li> <li>● Computers</li> <li>● Walkie talkies</li> <li>● Safety kit (goggles, safety vest, and landing pad)</li> <li>● Clay</li> <li>● UAV Forecast app</li> <li>● Anemometer</li> <li>● PIX4DMapper</li> <li>● Drone deploy</li> <li>● Check list</li> <li>● Lean canva.</li> </ul>
<b>Approaches and methods used</b>	<p>The participants were from an indigenous community and about half of them only spoke Ixil. We were supported by local translators.</p> <p>In Guatemalan indigenous women have limited reading and writing skills, so incorporating hands-on elements in the training was a key factor. The participants found it easier to learn by doing.</p> <p>We started with an introductory session which was mainly virtual. We also ensured that there was minimal theoretical</p>

learning and maximized the practical learning elements.

Our methodology can be summarized as follows:

- **Frame: STEM:** it concentrates on the 4 C's identified as key in 21st-century education: Creativity, Collaboration, Critical Thinking and Communication. It is an integration of science into a teaching approach based on the interdisciplinarity and applicability of science and mathematics knowledge. Within the framework of this methodology, we leave passive learning and focus clearly on the practical side.
- **PBL (Project Based Learning) Methodology:** allows students to acquire knowledge and key competencies through the development of projects that respond to real-life problems.
- **Cooperative Learning Methodology:** "Stronger Together." This was used to group students and thus positively impact learning.
- **Prospective Methodology:** explore, foresee and shape the future to help shape and use collective intelligence in a structured and systematic way to anticipate changes.