

User experiences, adoption barriers, and opportunities for future deployments of Butter Box in Latin America

Executive summary

Overview

Between May and July 2026, The Engine Room conducted qualitative research to understand how Butter Box is used among Indigenous communities and at-risk users across Latin America. The research explored core community needs, what barriers affect its adoption, and what improvements could make it more context-aware, secure, and meaningful. The research combined direct engagement with 12 individuals through interviews and user diaries, an in-person workshop with 21 participants, field observation, and contextual and security assessments of digital threats facing Indigenous communities in the region.

Context

Butter Box is a tool developed by The Guardian Project to generate a local Wi-Fi network that works without an internet connection. It allows access, from phones or other equipment, to content, apps, maps, privacy tools, and an internal chat, without using mobile data. It is designed for communities and organizations working in contexts of limited or non-existent connectivity, including during emergencies or crises, such as the aftermath of a natural disaster or in regions experiencing government imposed internet shutdowns.

This tool is particularly relevant for Indigenous communities and at-risk users in Latin America who face a compounding range of digital threats in contexts of low connectivity. In 2025, less than 65% of Chiapas's population had internet access, compared with 83% nationally.¹ Where connectivity does exist, users often rely on platforms such as WhatsApp and Facebook, exposing them to threats including phishing, account theft, extortion, surveillance, and increasingly sophisticated AI-enabled scams. These risks affect journalists, women, LGBTQ+ activists, and Indigenous land defenders in a region that reports the highest number of killings of environmental and land defenders globally.²

¹ Espinosa, P. (2025, July 30). Chiapas, entre los estados con menor acceso a Internet y tecnología en 2025: INEGI. *El Heraldo De México*.
<https://heraldodemexico.com.mx/nacional/2025/7/29/chiapas-entre-los-estados-con-menor-acceso-internet-tecnologia-en-2025-inegi-718593.html>

² Global Witness. (2024, September 10). The violent erasure of land and environmental defenders.
<https://globalwitness.org/en/campaigns/land-and-environmental-defenders/missing-voices/>

Against this backdrop, offline information sharing tools such as Butter Box offer potential to ensure at-risk users and Indigenous communities can remain connected and protected. The findings of this project will be used to strengthen the usability, accessibility and security of Butter Box to ensure it continues to meet the needs of the communities it serves.

Key findings

The five points below summarize key needs and barriers that Indigenous communities, rights activists, and community facilitators in Mexico, Colombia, and Venezuela face when using Butter Box:

1. **Butter Box responds to a real need in low-connectivity contexts:** People with little to no tech background describe Butter Box as accessible despite feeling generally unfamiliar with technology. Users are adapting Butter Box well beyond simple file sharing, using it for offline classrooms, preserving local and linguistic knowledge, with an interest in additional community uses such as running offline AI without sending community data to big tech, and supporting communication and coordination during emergencies.
2. **Offline access requires targeted and localized support:** People need clear guidance to use and maintain Butter Box without relying on internet access or continuous support from the Butter Box team. This guidance should also reflect the different roles users play. We identified four user personas: the Community Teacher, the Self-Taught Technical Activist, and the Institutional or Community Facilitator, who administer Butter Box directly and stay in touch with the team for training and support. The fourth, the End User, accesses the tool through one of these users without taking part in its management. Understanding these different roles can help tailor support, particularly for End Users who often rely on community members for assistance.
3. **Offline sharing can support data sovereignty, but local storage alone is not enough:** Butter Box can give communities greater control over how their information is stored and shared, but local storage alone does not ensure that communities can exercise that control. Communities, especially those sharing knowledge in Indigenous languages and culturally sensitive content, need to be able to decide how information is organized, shared, retained, and accessed safely and according to their own cultural practices. To support this, they need clear guidance on responsible data management, localized support in Mayan languages, and trusted local contacts they can turn to when they need additional support.
4. **Community relationships are key to sustained use of Butter Box:** We found that continued use of Butter Box often depends on strong community relationships and specific individuals who take responsibility for the tool. The research shows that people feel more confident using Butter Box when it is introduced by someone they know and

trust or through examples that reflect their own context. However, in many cases, only one person knows how to care for Butter Box, explain it to others, and integrate it into the organization's activities. When that person changes roles, leaves, or no longer has time, knowledge and continuity can be lost. Building community ownership of the tool is important, especially for communities with limited access to devices, where some families share only one or two phones.

5. **Offline does not automatically mean secure:** We found that ensuring the security of Butter Box is a high priority. On one hand, Butter Box needs to be kept up to date to ensure adequate data protections. However, security also depends on data literacy of users and the security of the phones that connect to it, many of which are aging and may no longer receive security updates. The physical device also introduces risks, particularly if it is lost or accessed by someone else, as can happen with older versions of the tool. It is essential to ensure that users can set up strong access controls and clearly understand what protections exist and what risks remain.

Recommendations

Based on this evidence, we recommend the following priority measures to support autonomous, safe, and sustainable use of Butter Box:

1. **Upgrade older Butter Box units used with groups:** Organizations should track which units still run older versions and prioritize upgrades where many people need to connect at once, such as classrooms, workshops, and other group settings where older hardware creates the most friction. To incentivize users, the benefits of upgrading, including improved security, and the risks of continuing to use older versions should be made clear to users and organizations.
2. **Build and test accessible onboarding offline:** Butter Box already has a Quick Start guide, FAQ, and website instructions, but these currently require internet access. A minimal offline version, such as a printable card or a page hosted directly on the box, should explain how to connect, what users can do, and how to resolve common issues. We recommend for example, including physical copies or mini-zines with the box providing information on how to connect the box, security protocols and data protection guidance. Developers should also establish ways to provide sustained support without relying on continuous connectivity, such as offline troubleshooting resources and periodic check-ins with community stewards.
3. **Support shared responsibility of the device:** Butter Box should account for community dynamics and provide targeted support for facilitators and community stewards. For example, each organization should designate at least two Butter Box stewards, supported

by a simple handover checklist and regular check-ins, so that knowledge and responsibility are shared and maintained when roles or staff change. It may also be valuable to identify local contact points, particularly organizations or groups working on digital rights and connectivity, that stewards can turn to when they need additional support.

4. **Incorporate holistic digital security and responsible data management guidance:** Butter Box guidance should include practical, context-specific information on digital security and responsible data management, including how to protect sensitive information when connected to the device, respond to device loss or confiscation, and safely retain or delete content. Similarly, security protocols should be reviewed regularly and tested against realistic scenarios with an emphasis on keeping the threat landscape for Indigenous communities in Latin America up to date.
5. **Localize guidance to support accessibility and sovereignty:** Interfaces, onboarding materials, and security guidance should be available in relevant local languages, along with an easily accessible language selector. Translations should be developed and tested with native speakers to ensure key actions, particularly those related to security, are clear, culturally appropriate, and easy to understand. The Butter Box team should also consider how localized guidance can encourage sovereignty, building autonomy to decide how information, especially Indigenous-language and culturally sensitive content, is organized, shared, retained, and accessed in the Box according to their own cultural practices.
6. **Enable community-led experimentation and new uses:** Butter Box can support further experimentation by documenting emerging use cases, helping communities learn from one another, and identifying which locally developed practices could inform future development. One area that stood out was interest in using Butter Box during emergencies and in the aftermath of natural disasters, when power and connectivity are often among the first services to fail. In these situations, technologies like Butter Box can help communities maintain access to critical information and communication, potentially saving lives.