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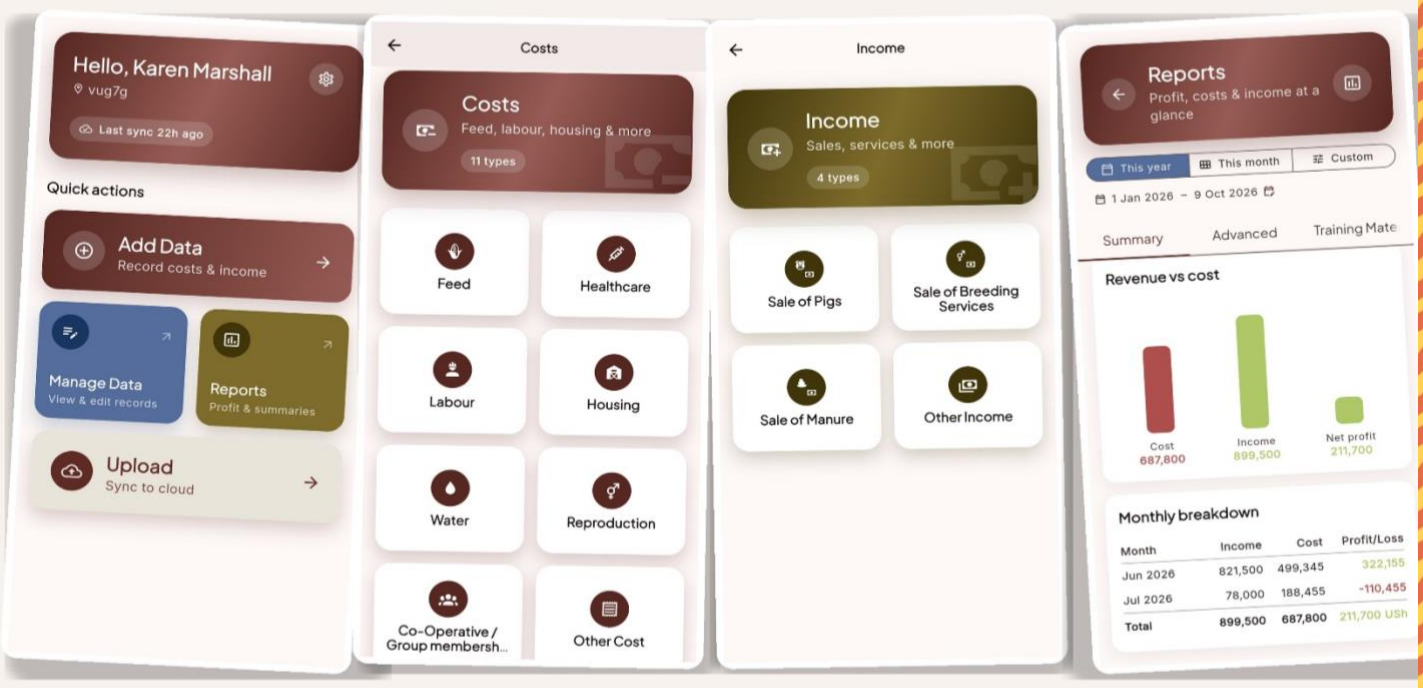
SUSTAINABLE ANIMAL AND AQUATIC FOODS

Pig Profit App Rebuild 2026: Restoring compatibility with the Google Play Store

October 2026



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Suggested citation: Marshall, K. 2026. Pig Profit app rebuild 2026: Restoring compatibility with the Google Play Store. Nairobi, Kenya: ILRI.

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Acknowledgements: This work was conducted as part of the CGIAR Sustainable Animal and Aquatic Foods (SAAF) Science Program. CGIAR research is supported by contributions to the CGIAR Trust Fund. CGIAR is a global research partnership for a food-secure future dedicated to transforming food, land, and water systems in a climate crisis.

Executive summary

The Pig Profit mobile application was rebuilt by Crea2Sol Private Limited to resolve compatibility issues that prevented the original version from being updated or published on the Google Play Store. The rebuilt application, developed in React Native, meets all current Android and Google Play requirements and has been live on the Play Store since September 2026. This report summarizes the key changes made during the rebuild.

Background

The Pig Profit app is a decision-support tool designed to enable smallholder pig farmers to calculate the profitability of their pig enterprises. Many smallholder farmers lack access to simple financial management tools, making it difficult to determine whether their pig-keeping activities generate a net return. The app addresses this by allowing farmers to record all pig-related costs — including feed, healthcare, labour, housing, water, reproduction, cooperative membership, animal purchase, equipment and loan repayments — as well as all income streams, including pig sales, breeding services and manure sales. From these records, the app calculates profit or loss across any user-selected time period, providing farmers with the financial evidence needed to make more informed production and marketing decisions. The app operates on Android smartphones, with a single household or pig unit registered per device, matching the smallholder production context in which it is deployed. For further background on the app and its use, see Marshall (2024).

The app was originally built using the Xamarin framework. Following updates to Google Play Store policies and Android requirements, the original Xamarin build could no longer be published or updated on the Play Store: the Xamarin framework had reached end of life, a core library had expired, and the app did not meet current Android compliance requirements, including the mandatory 16 KB memory page size. As a result, ILRI commissioned a rebuild of the application.

Key changes in the rebuilt application

1. Platform migration: Xamarin to react native

The application was rebuilt in React Native, replacing the end-of-life Xamarin implementation. This ensures the app meets current and upcoming Google Play Store requirements, including the 16 KB memory page size mandate, and can be maintained and updated going forward. The rebuild was not a cosmetic update — it involved reconstructing all screens, workflows, and data structures from the ground up.

2. Google Play Store compliance and publication

The rebuilt app has been accepted and published on the Google Play Store under the ILRI developer account (last updated 18 September 2026). It is publicly available at:
https://play.google.com/store/apps/details?id=com.ilri.pigprofit

3. Profit and loss engine retained

The existing profit and loss algorithms and business logic were recovered from the original codebase and re-implemented in the new framework. Outputs have been validated against the original version to ensure continuity for existing users. The core formula — income minus costs equals profit or loss across any user-selected period — is preserved, including the handling of time-distributed costs (feed, labour, water, housing, loans), which are spread evenly across the months they cover.

4. Modernized, low-literacy-friendly user interface

The interface was redesigned to better serve smallholder farmers with limited digital literacy. Key interface changes include:

- Flattened navigation — farmers reach cost and income forms in fewer taps.
- Category-led data entry — a single screen separates the 11 cost types from the 4 income types, avoiding long scrolling lists.
- Redesigned income icons — following ILRI review, three icons were redesigned to be immediately legible to low-literacy users: Sale of Pigs (pig head glyph), Sale of Breeding Services (paired male/female symbols), and Sale of Manure (material-mound glyph), each paired with a banknote mark for visual consistency.
- Drop-down selection with free-text 'Other' fallbacks across all data entry forms.

5. Multilingual support

The app supports four languages (English, Luganda, Vietnamese, and Kinyarwanda) which users select in settings. Language coverage and accuracy were verified during ILRI's review of the pre-release build.

6. Data ownership and privacy architecture

The rebuilt app retains the original data ownership model: all records are stored on the farmer's device and the app works fully offline. Data is uploaded to the ILRI central database only when the farmer manually initiates a sync. No data is shared with third parties, and data is encrypted in transit. A clear warning is displayed if the farmer logs out with unsynced records.

7. Functional scope

All 12 functional modules are live in the published build: profit engine, user registration, cost recording (11 types), income recording (4 types), data entry interface, data management (view, edit, delete records), reports and analytics, time-distributed costs, local storage, consent-based upload to the ILRI Azure database, settings and profile, and logout handling.

Next steps

- Completion of the Power BI dashboard data pipeline from uploaded records.
- Post-release stabilization support: monitoring Play Store installs and crash metrics and resolving issues.
- Pilot testing with smallholder pig keepers in Uganda.

References

Marshall, K. 2024. Marshall, K. 2024. Pig Profit app: How much do you earn from keeping pigs? Nairobi, Kenya: ILRI. https://hdl.handle.net/10568/158517



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We would like to thank all funders who support this research through their contributions to the CGIAR Trust Fund: www.cgiar.org/funders.

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