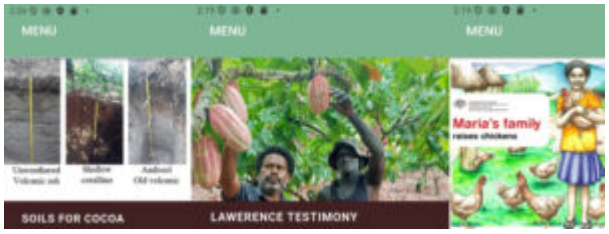
PNG cocoa information goes mobile



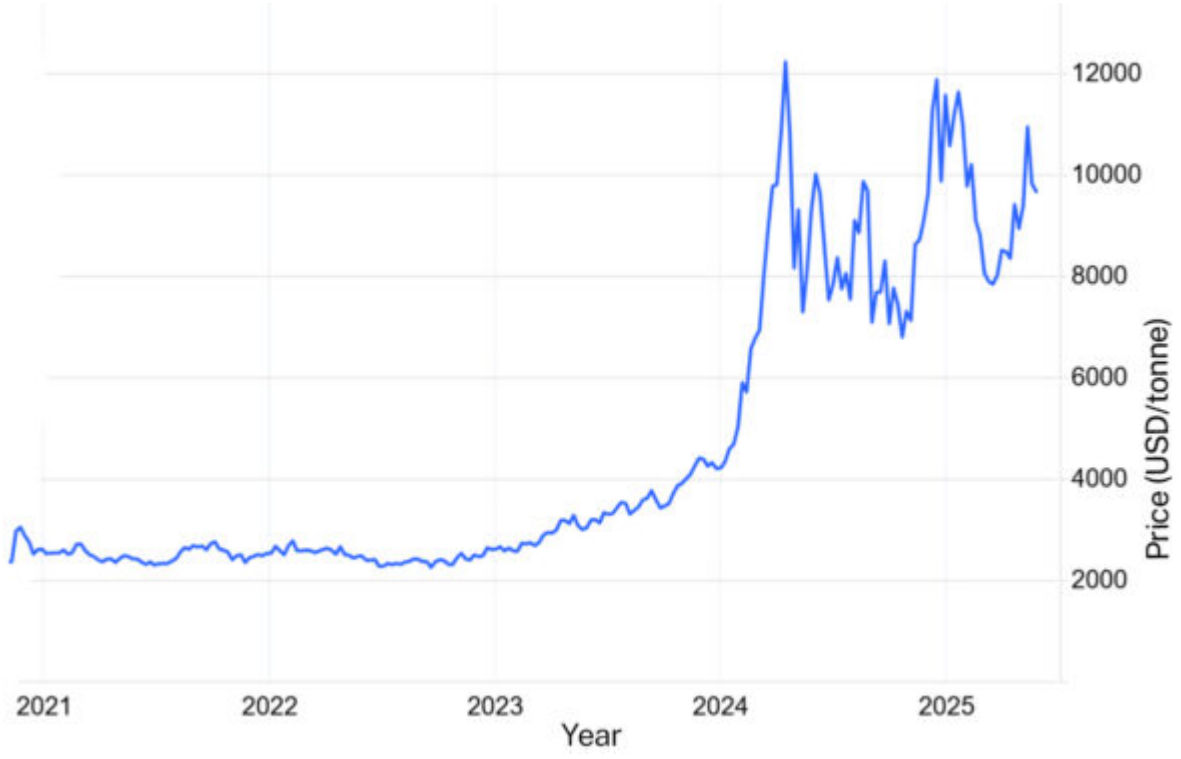
PNG Cocoa App interface

by Tom Swan, Chris Fidelis and Damien Field

9 July 2025

Global cocoa prices have risen sharply in recent years owing to supply issues, principally cocoa disease and climate change, in major producer countries like Côte d'Ivoire and Ghana. As of 27 May 2025, cocoa was priced at around US$9,770.87 per tonne, the highest in over 40 years (Figure 1). Cocoa farmers in Papua New Guinea are cashing in, as cocoa export revenues continue to reach record highs. So far in 2025, PNG has already earned PGK1.2 billion from cocoa exports. Of this, PGK540 million has come from the Autonomous Region of Bougainville, the country's largest cocoa-producing area, followed by East Sepik with PGK310 million, then East New Britain with PGK210 million. More than 80% of cocoa production in PNG is managed by smallholder farmers, and cocoa farming remains the primary source of income for approximately two million people in PNG.

Figure 1: Global cocoa price, 2021-2025



Source: Trading Economics as at 27 May 2025.

In a previous post, we discussed the importance of youth in cocoa farming in PNG.

We argued that youth and the family unit are essential to the success of smallholder cocoa farming. Engaging and empowering both at every stage of production and export should be a top priority for PNG.

However, research indicates a declining interest among young people in pursuing a livelihood in agriculture. One proposed initiative to reverse this trend involves the use of technology — particularly mobile applications which may make farming more accessible, engaging and rewarding.

To support youth engagement and promote knowledge sharing in cocoa farming in PNG, we recently launched the PNG Cocoa App which is free and available on the Google Play Store. A YouTube video has been created to demonstrate its use.

The PNG Cocoa App was developed as part of a digital agricultural extension approach. Such approaches offer several key advantages.

First, they deliver broad reach. The PNG Cocoa App can be downloaded by anyone with a smartphone, making it especially valuable in remote and rural areas of PNG where traditional agricultural extension services are limited.

Second, they offer offline functionality. Once downloaded, the app remains fully accessible without the need for mobile data, ensuring continuous support for farmers in areas with limited cellular connectivity.

Third, they increase youth engagement in the industry. By leveraging the widespread use of smartphones among young people in PNG, it is hoped that the app will help make agriculture more accessible, engaging and appealing to the next generation of farmers.

The PNG Cocoa App is designed to empower farmers by providing practical tools and accessible, up-to-date knowledge on Integrated Pest and Disease Management (IPDM) for sustainable cocoa production. Strategically, the app was also designed to align with the wider goals of One Health and Soil Security by including content on water, sanitation and hygiene (WASH), local cooking recipes and sustainable soil management — such as soil nutrient replenishment through composting. The PNG Cocoa App builds on the foundations of the Bougainville Cocoa app, by expanding functionality to include a wide range of multimedia resources. These include: multimedia IPDM extension and training materials, farmer testimonies and hyperlinks to the recently digitised PNG Cocoa Curriculum, and many more.

The PNG Cocoa App also functions as a digital repository, enabling users to access key resources at their own pace — even without mobile data. This feature is particularly valuable in PNG, where printed materials such as manuals and

textbooks are often lost or damaged due to fires, water or general deterioration — often without backup copies available. By digitising essential agricultural content, the app helps preserve critical information that would otherwise be at risk.

In addition, to ensure inclusivity, especially for younger farmers and those with varying literacy levels, the app supports learning beyond text — through visual, audio and interactive content. We believe that this inclusive approach may help bridge knowledge gaps and encourage broader participation in cocoa farming.

Our team are currently travelling across Madang Province to engage directly with cocoa farmers. The main objectives of this field visit are to introduce the PNG Cocoa App, facilitate focus group discussions and gather in-depth feedback on the app's current features and potential applications. As part of our broader evaluation framework, we aim to assess the app's perceived usefulness across different age groups, its adoption rates and its overall impact on farming practices. These evaluations and conversations will help us better understand what is working well and identify areas for improvement.

We envision the PNG Cocoa App as a continuously evolving tool, guided by an iterative design process with app users. This approach will allow us to refine existing features and develop new ones based on user input and the real-world needs of PNG cocoa farmers.

Future versions of the app could include real-time market prices from local buyers and exporters (such as Outspan and Agmark). Cocoa farm polygon mapping could be added to support compliance with the European Union Deforestation Regulation. Weather and climate forecasting could aid planning. Finally, record keeping for yields, accounts, pesticide and herbicide treatments could be stored in one place.

We hope the PNG Cocoa App becomes not only a valuable educational resource for digital agricultural extension and today's cocoa farmers, but also a source of inspiration for the next generation of cocoa growers across the country.

We welcome feedback and look forward to building this app together.

Acknowledgements: We would like to thank our wider team for their support to build this app. We are indebted to the Bougainville Cocoa Team for providing the schema and source code for the app, which we modified. We also acknowledge Kshitiz Bhargava at the University of Sydney for his help with the launch of this app and Charles Ihembe for leading the on-ground app testing and feedback process in Madang. Finally, we acknowledge numerous people from the Autonomous Bougainville Government's DPI/BACRA team and the Cocoa Board staff for their time and expertise to build content for this app.

Author/s:

Tom Swan
Tom Swan is a Research Fellow at the University of Sydney, working to improve soil health and management in Papua New Guinea, for integrated cocoa farming systems.

Chris Fidelis
Chris Fidelis has worked as an agronomist with the Cocoa Board of Papua New Guinea since 2004.

Damien Field
Damien Field is Professor of Soil Security and Soil Education at the University of Sydney.

Link: https://devpolicy.org/png-cocoa-information-goes-mobile-20250709/