

The Economics of Tobacco Farming in Indonesia

Findings from the Tobacco Farmers' Study (TFS), Waves 1–4, 2016–2022

Sahadewo · Drope · Witoelar · Li · Lencucha | July 2026

ABOUT THIS STUDY

The **Tobacco Farmers' Study (TFS)** is Indonesia's only multi-wave panel survey of tobacco and former tobacco farming households. Launched in 2016, the TFS tracked farmers across East Java and Central Java over four survey waves (and West Nusa Tenggara for one wave) — enabling analysis of farmer livelihoods under varying weather conditions and economic shocks, including the COVID-19 pandemic. **Wave 4 (2022) is the final wave of this landmark study.**

FOUR WAVES: STUDY DESIGN

The panel design allows comparison of livelihoods across good and poor agricultural years — enabling causal inference that cross-sectional surveys cannot provide.

- Wave 1 · 2016** Unfavorable weather; baseline year
- Wave 2 · 2018** Favorable weather; strong tobacco season
- Wave 3 · 2019** Favorable weather; continued strong year
- Wave 4 · 2022** Favorable weather overall; COVID-19 context

WHY THIS MATTERS

The tobacco industry persistently claims that tobacco farming guarantees prosperous farmer livelihoods and that tobacco control policies would harm farmers economically. The TFS directly tests these claims with rigorous household-level panel data. Indonesia is the **world's fourth-largest tobacco leaf producer**, yet tobacco farmers represent only **1.6% of the agricultural sector** and tobacco farming contributes just **0.03% of GDP** — far smaller than its political profile suggests.

KEY NUMBERS AT A GLANCE

~5x higher input costs per hectare: tobacco vs. non-tobacco

~3x higher household labor costs per hectare for tobacco farmers vs. non-tobacco farmers

~24% of tobacco farmers need loans just to meet daily needs

40% of male children under 15 in tobacco households reported illness likely related to handling tobacco leaf (Wave 4)

MAIN FINDINGS

- Farmers continue growing tobacco out of habit, not economics.** The most-cited reasons for continuing were familiarity and cultural habit — not superior profitability. The share citing economic motives fell significantly from Wave 2 to Wave 4.
- Former tobacco farmers consistently out-earn current tobacco farmers.** Across all four waves, households that exited tobacco farming reported higher total incomes (average: IDR 18.4M vs IDR 10.8M in Wave 4), driven largely by diversification into enterprise and wage activities.
- Tobacco farming carries very high costs that farmers underestimate.** Tobacco farmers bear nearly five times the input costs per hectare and about three times the household labor costs per hectare compared to former tobacco farmers. Perceived profits are significantly higher than real profits because farmers do not fully account for household labor opportunity costs.
- Profits are volatile and weather-dependent.** While Wave 4 saw overall positive per-capita household income, real profit from tobacco farming per hectare was negative (–IDR 1,225 thousand/ha), driven by lower sales volumes and elevated labor costs.
- A higher share of land devoted to tobacco is associated with lower total income.** Regression analyses confirm that the more land a household dedicates to tobacco farming, the lower its total income — consistent across all four waves.
- Poverty rates are higher for tobacco farmers and rose in Wave 4.** Tobacco farmers show persistently higher poverty rates than former tobacco farmers across all waves and are more likely to depend on government social protection programs (e.g., Kartu Keluarga Sejahtera / KKS).
- Tobacco farming drives debt.** Nearly a quarter (~24%) of current tobacco farmers in Wave 4 reported needing loans simply to meet daily needs, on top of loans needed for farming inputs.

SOCIAL CONCERNS

The share of tobacco farming households living in poverty is consistently higher than the national poverty rate and higher than the poverty rate among former tobacco farmers — a finding that holds across all four waves of this study.

POLICY RECOMMENDATIONS

The Wave 4 TFS refines and reinforces recommendations from previous waves. Policies should be pursued at national and local government levels, with funding channelled through the **Dana Bagi Hasil Cukai Hasil Tembakau (DBHCHT)** — the Revenue Sharing Fund for Tobacco Products Excise — and the **Dana Desa (Village Fund)** programs, both of which are specifically eligible for use in tobacco-related interventions.

Recommendation 1: Expand Agricultural Extension Services to Enable Crop Transition

Rationale: TFS data consistently shows that farmers continue growing tobacco primarily out of habit and familiarity, not because it is their most profitable crop. The hidden costs borne by government are partly visible in farmers' reliance on social protection programs.

Action: Local governments should identify and establish agricultural extension services and supporting programs to enable tobacco farmers to transition to viable non-tobacco cash crops suited to local agroclimatic conditions and market demand. Services should provide training on alternative crop cultivation; market intelligence on commodity prices and buyer access; and linkages to agribusiness buyers and processors.

Funding mechanism: DBHCHT and Dana Desa programs.

Recommendation 2: Invest in Water Infrastructure to Unlock Dry-Season Alternatives

Rationale: Difficulty accessing water during the dry season is the most consistently cited reason tobacco is perceived as the "only viable crop." This structural constraint keeps farmers locked into tobacco cultivation even when they want to exit.

Action: National and local governments should prioritize investment in irrigation systems, deep groundwater wells, and reservoirs in tobacco-producing districts. Improved water access removes the single most important structural barrier to crop diversification.

Funding mechanism: DBHCHT (eligible for agricultural infrastructure) and Dana Desa programs.

Recommendation 3: Support the Formation of Robust Farming Cooperatives

Rationale: TFS data shows that tobacco farmers depend heavily on middlemen and lack collective market power. Farmer cooperatives have demonstrated effectiveness in improving smallholder livelihoods across agricultural contexts.

Action: Local governments and the Ministry of Cooperatives should actively promote and support farming cooperatives in tobacco-producing districts. Cooperatives offer bulk purchasing of inputs at lower cost; collective market power reducing dependence on intermediaries; shared transportation costs and logistics; and informal credit for short-term financing needs.

Funding mechanism: Local budget (APBD) and Ministry of Cooperatives programs.

WHAT FOUR WAVES OF SURVEY DATA SAYS TO POLICYMAKERS

- ✓ **Tobacco farming does not guarantee livelihood security;** most farmers live at or below the poverty line.
- ✓ **Farmers who exit tobacco farming typically improve** their economic outcomes.
- ✓ **The hidden costs of tobacco farming** — labor burdens, health impacts, debt — are borne by farming families and government programs, not the tobacco industry.
- ✓ **Tobacco control policies are not a threat to farmer welfare;** well-designed transition support programs can actively improve it.

Research Team

Gumilang Aryo Sahadewo, Ph.D. — Faculty of Economics and Business, Universitas Gadjah Mada (gasahadewo@ugm.ac.id)

Jeffrey Drope, Ph.D. — Johns Hopkins Bloomberg School of Public Health (jdroke@jhu.edu)

Firman Witoelar, Ph.D. — Crawford School of Public Policy, Australian National University

Qing Li, M.A., M.Ed. — School of Economics, University of Cape Town

Raphael Lencucha, Ph.D. — Faculty of Medicine, McGill University

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