

Farmers' Health as a *Driver* of Cocoa Supply Chain Resilience

The long-term sustainability of the cocoa sector is inextricably linked to the physical and mental well-being of the smallholder farmers who underpin the global supply chain. This brief brings together the existing evidence on the health issues cocoa farmers face, its links to their productivity and wellbeing, and the steps the cocoa industry can take to start investing in a solution.

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Cocoa farmers face health issues linked to their livelihood and rural location

The relationship between cocoa farmers' livelihoods and their health remains a neglected area of study. The most comprehensive data source on this topic describes cocoa farmers' health as compromised by a total lack of "separation between the living environment and farm environment" (1).

The most frequently studied health issues are occupational hazards and musculoskeletal problems (1,2,3,4,5). A survey in West Sulawesi found 30% of farmers experienced joint and back pain (3), while a 2025 Ghana study documented cuts, waist pains, and insect bites as the most common injuries (2). The repetitive, forceful movements, heavy lifting, and the use of tools in farming are established causes of strain, pain and abrasion.

Other studies also flag chemical exposure and pesticide-related illnesses as heightened risks (1), environmental hazards such as heat, sun exposure and snake or insect bites (1), and ocular issues and blurry vision (2,6). In one study, over 50% of 420

respondents reported that "pressure" and "much thinking" negatively affected their health. The primary drivers were financial worry (70%), family matters (56%), and the pressures of cocoa farming itself (51%) (1).

Farmers are also susceptible to diseases endemic to rural areas, such as malaria, typhoid, and TB (5,7), and although under-studied, likely neglected tropical diseases (NTDs). Non-communicable diseases, such as macronutrient deficiencies, hypertension, diabetes mellitus and arthritis are indirectly associated with farming (3,5,7,8).

Productivity losses and negative coping strategies

Ill health can have both short- and long-term impacts on farmers, respectively: "absenteeism from work due to morbidity (or mortality); time diverted to caring for the sick; and loss of savings and assets in dealing with disease and its consequences" and "loss of farming knowledge, reduction of land under cultivation, planting of less labour-intensive crops, and reduction of variety of crops planted" (5).





Evidence of the effect of ill health on productivity looks at both absenteeism and reduced efficiency. A 2025 study found that cocoa farmers experience an average of 11 injuries per season, totalling 57 lost working days (2). In Ghana, a 1% increase in illness days during harvesting correlated with a 2% reduction in total agricultural production value (9). Research in Cambodia highlighted that farmers with poor vision had worse economic performance, indicating that even when working, health-impaired farmers may be “coping” with conditions that limit their earnings (10).

Bouts of illness can often translate into “catastrophic health expenditures” (spending >40% of non-subsistence income), which can have a distorting effect on other expenditures, reducing investments in farm labour and agricultural inputs (9), as well as basic needs like food (11). In Cameroon, a 30% increase in out-of-pocket health costs was modelled to decrease agricultural production by 6% to GDP (12). In the most extreme cases, excess health expenditures can lead to farmers needing to sell land or assets to pay for health, so-called ‘hardship financing’ (13).

A final, potential effect of ill health on the livelihoods and wellbeing of farmers is triggering “negative coping strategies”. While there has been no specific research looking at health shocks as the source of negative coping strategies, there are studies looking at health insurance and its protective effects. In Ghana, the National Health Insurance Scheme led to an 8.8% reduction in child labour among households with more severe ill health (14). In Pakistan, the broadening of health insurance to include other household members was associated with large reductions in child labour, earnings from child labour and hazardous occupation (15). In Borneo, accessible health services for farmers led to a 70% reduction in deforestation, as households no longer relied on emergency logging to pay for medical care (16).

Why should industry care?

The consequences of illness and disability are felt most keenly by cocoa households themselves, but their impacts extend across the sector, challenging current social protection models and supply chain stability.

While research is still limited, the local impacts of ill health inevitably compound onto the supply chain. A 2023 modelling study in Côte d’Ivoire estimated that medical emergencies decreased the likelihood of a smallholder cultivating cocoa by 3.9%. This correlates to a USD 853 million decline in cocoa exports and a USD 125 million loss in tax revenue—roughly 0.2% of the nation’s 2017 GDP (17).

Current sustainability strategies rely heavily on living income benchmarks. However, these models often fall short in two critical areas: 1) benchmarks typically integrate average health insurance costs but overlook opportunity costs (lost labour) and out-of-pocket spending on non-insured services; 2) they assume a “normal” labour capacity, failing to recognize that farmers with chronic illness face persistent productivity losses that make reaching benchmark income levels impossible. As a result, reaching a living income does not necessarily guarantee effective access to healthcare, especially where geographic barriers and service gaps exist; nor does it ensure protection against health-related income volatility.

Evidence suggests that for the poorest households, yield improvements provide larger income benefits than price increases alone (18). Because health is a primary driver of yield, health interventions disproportionately benefit vulnerable families. Furthermore, health-related income volatility acts as a barrier to sustainable intensification; the effect of ill health on finances and labour increases risk aversion, preventing farmers from adopting the very practices and inputs designed to lift them out of poverty (18).

Emerging models, such as the partnership between the Ivorian national health insurance agency and OLAM International, demonstrate that industry's contributions to health insurance premiums builds farmer loyalty and strengthens supply relationships (19). Health protection mitigates attrition risks—preventing farmers from selling land or exiting the sector entirely—making healthcare a relational and institutional investment rather than a mere “input” to productivity.

Where do we go from here?

To build a healthy and resilient cocoa sector, the industry must transition from viewing health as a philanthropic “add-on” to treating it as a foundational sustainability and poverty alleviation strategy.

1.

Close the data gap: We must establish how ill health and health costs leads to negative coping strategies like child labor and hazardous occupation. Research is urgently needed at the “meso” level to understand how individual health impacts scale to affect cooperative performance and regional export volumes.

2.

Refine living income models: Calculations must account for the lower starting point of households affected by long-term illness. We must stop assuming insurance coverage implies local service availability for the most remote rural farmers.

3.

Integrate health into sustainability strategy: Companies should move beyond philanthropy to integrate health as part of farmer loyalty, a sustainable supply chain, and pathways out of poverty. This includes complementing living income pricing with structures that reduce health-related income volatility, such as partnering with farmer cooperatives to strengthen domestic health insurance programmes, increase enrolment, co-finance coverage or top-ups for specific occupational risks and ensure local health facilities are well resourced and managed.

Supporting references are available on our [publication page](#).

Colophon

This learning brief was developed for Elucid's side session at Chocoa 2026 '*Measuring What Matters (and Questioning the Rest)*'. We would like to thank Elucid for the invitation and acknowledge their publicly-available [Evidence Base](#) that fed into this brief.

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