

Policy Brief: Anticipating the 2026/2027 El Niño Shock in Papua New Guinea: An Assessment of Rural Household Vulnerability from the 2023 Rural Household Survey

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Papua New Guinea (PNG) faces increased risks from the projected 2026/2027 El Niño event. Drought may reduce crop and livestock production, increase food shortages, and lower agricultural incomes, adding pressure to households already facing food insecurity. This policy brief highlights findings from an assessment of evidence from the [2023 Papua New Guinea Rural Household Survey \(PNG-RHS\)](#) to help identify locations for preparedness and early action.

Rural households are entering the shock with limited resources...

The PNG-RHS shows substantial existing food-security problems in 2023. Seventy-nine percent of rural households experienced food insecurity during the previous 12 months, and food shortages lasted an average of 3.8 months. Conditions were more severe in several sentinel locations: food insecurity affected 97 percent of households in Bitapaka and Kamano No.1 and 96 percent in Kapao (Aseki). Average food-shortage duration reached 7.5 months in Bitapaka, 5.2 months in Nanima Kariba, 4.7 months in Agarabi, and 4.5 months in Kapao (Aseki). Many households may therefore have limited means to manage further production losses. Those dependent on own agricultural production and with few savings, productive assets, or alternative income sources may face additional food shortages and income losses.

...and current coping strategies may be inadequate

Households most commonly rely on *wantok* networks (32 percent), cheaper or less preferred foods (25 percent), and increased labor supply (22 percent). Others reduce meals (11 percent), spend savings (10 percent), work for food (10 percent), reduce meal portions (8 percent), or borrow food or receive assistance from relatives (6 percent). While these strategies may help with short-term shortages, they are less effective during a widespread climate event. Demand for informal support networks may increase, while reduced agricultural activity may limit labor opportunities. Spending savings or selling productive assets can protect consumption in the short term but would weaken households' ability to recover.

Highland and lowland communities face different climate risks

Climate risks vary across PNG. Highland areas face both drought and frost, particularly at higher elevations, while lowland areas are mainly exposed to drought and its effects on crop production, livestock, water availability, and farm income. The effects will depend on the severity of the climate conditions and households' dependence on agriculture. In the food-producing highlands, drought and frost could reduce food availability, farm income, and livestock production at the same time. The assessment identifies Kapao (Aseki), Agarabi, Gena-Waugla, Minj, and Mul Rural among locations with high levels of both climate

exposure and household vulnerability. These areas combine high food insecurity, strong agricultural dependence, and significant climate exposure.

Lowland areas also face important drought risks. Prolonged dry conditions can reduce staple-crop production, livestock feed and water availability, and farm income. In remote areas, limited transport and market access can make it more difficult to obtain food when local production falls. Preparedness should therefore address drought and frost risks in the highlands and drought risks in lowland areas, with priority given to communities where climate exposure coincides with high food insecurity, strong agricultural dependence, and limited market access.

How climate shocks can affect household welfare

- **Food production:** Drought and frost may reduce staple-crop production and extend household food shortages.
- **Agricultural income:** Losses in coffee, vegetables, and other market-oriented crops could reduce household income and purchasing power.
- **Food markets:** Lower own production would increase reliance on purchased food. Where local supply is constrained and transport costs are high, households may face higher prices or reduced availability.
- **Household assets:** Prolonged food shortages may lead households to spend savings or sell livestock and other productive assets, making recovery more difficult.

Priorities for anticipatory action by government and development partners

1. **Protect food consumption.** Provide early food assistance and other livelihood options to highly food-insecure households in areas facing elevated climate risk, with the aim of maintaining consumption and reducing distress sales of productive assets.
2. **Protect agricultural production.** Secure seed and planting-material supplies and establish arrangements for rapid replacement following drought- or frost-related losses. Agricultural extension should provide timely advice based on local climate conditions. Prioritize high-risk Highland communities where climate exposure and existing vulnerability overlap.
3. **Protect livestock and productive assets.** Where drought or frost affects feed and water availability, timely livestock support can reduce avoidable losses of household assets and income.
4. **Monitor food markets.** Track food prices and availability in priority areas, particularly remote communities. Where supply constraints emerge, transport and food-distribution support may be required. Maintain monitoring in lowland and coastal areas, where drought and food-market effects may affect vulnerable households, particularly in remote communities.
5. **Establish financing and implementation arrangements in advance.** Link climate forecasts to agreed thresholds, financing arrangements, and institutional responsibilities so that resources can be released before losses become severe. Strengthen forecast-based planning and financing, with clear triggers, pre-arranged resources, and defined responsibilities to support timely action.

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