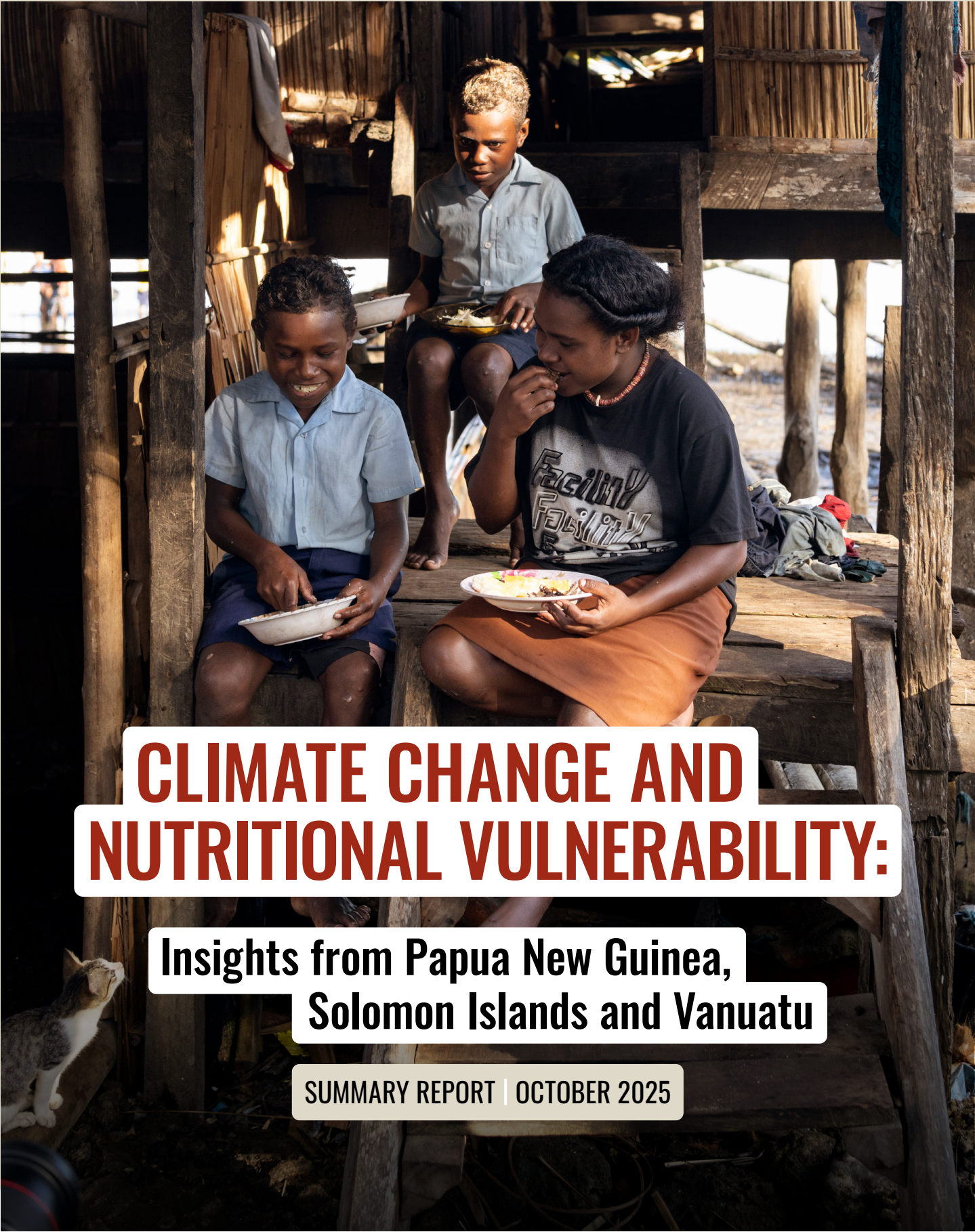


A photograph of a woman and two children sitting on wooden steps inside a rustic structure made of vertical wooden poles and horizontal wooden planks. The woman, wearing a black t-shirt with 'Family Facility' printed on it and an orange skirt, is eating from a white plate. Two young boys, wearing light blue school uniforms, are also eating from white bowls. One boy is sitting on the steps, and the other is sitting on a higher level. A small cat is visible in the bottom left corner.

CLIMATE CHANGE AND NUTRITIONAL VULNERABILITY:

Insights from Papua New Guinea,
Solomon Islands and Vanuatu

SUMMARY REPORT | OCTOBER 2025

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Save the Children Australia and Dikoda (2025) *"Climate change and nutritional vulnerability: insights from Papua New Guinea, Solomon Islands and Vanuatu. Regional Synthesis Report"*. Save the Children Australia, Melbourne.



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Why this study matters: a collision of crises

Stunting, anaemia, and rising child overweight threaten one in three Melanesian children, while the region sits on the frontline of the climate crisis, with more severe cyclones, more frequent droughts and sea-level rise threatening household food security, overburdening fragile health systems, and contaminating water sources (Mycoo et al., 2022). Children and pregnant and lactating women (PLW) are among the most vulnerable to both malnutrition and the effects of climate change. Yet, the intersection of these two crises – malnutrition and climate change – remains underexplored. This study examines how climate change is affecting the nutrition and food security of children under five and women in Papua New Guinea, Solomon Islands and Vanuatu, with a focus on the most nutritionally vulnerable: PLW and children in their First 1,000 Days (ie. the time from conception to the child's second birthday).

Study questions

This study was guided by four questions:

1. How does climate change affect the nutritional vulnerability of PLW and children under five, particularly those in the First 1,000 Days, in both remote/rural and urban/peri-urban areas of Papua New Guinea, Solomon Islands and Vanuatu?
2. What other significant factors (such as gender, disability, education, religion, cultural beliefs, livelihood sources, and family dynamics) influence the nutritional status of children under five? How are these interconnected with climate change, and what implications do they have for program design in the targeted locations?
3. What policies and programs currently address the intersection of climate change and nutrition for children under five in the targeted countries? What lessons can be drawn from Melanesia and other similar international contexts, particularly regarding how these policies and programs affect women and children under five, with a specific focus on the First 1,000 Days?
4. What policy and programming approaches can Save the Children and other key actors adopt at regional and country levels to address the nutritional vulnerability of children under five through integrating climate change and health/nutrition?

Methods at a glance

The study used a qualitative approach, triangulating evidence from primary and secondary data. A literature review and vulnerability analysis were conducted to assess climate change impacts on food security and nutrition in the three countries, particularly for women and children under five. The literature review examined evidence and gaps in policies and programs, and the vulnerability analysis reviewed available climate and nutrition vulnerability indicators at provincial levels.

Key informant interviews were conducted in all three countries, with a total of 29 contributors. Each of them was either a service provider or national, provincial or local policy stakeholder, and they all provided insights into policy frameworks, program implementation, and the intersection of climate change and nutrition. 33 focus group discussions with mothers/caregivers, fathers and grandmothers and 11 community mapping activities, were conducted in three to four sites in each country to understand the experiences of the perceived impacts of climate change on nutrition in women and children. The discussions took place in Autonomous Region of Bougainville, Papua New Guinea; Malaita, Solomon Islands, and Sanma and Shefa provinces, Vanuatu. Findings from the different study components and countries were integrated to align with each study question.

Findings

Climate change is deepening nutrition risks for mothers and young children

Climate change is accelerating both rapid- and slow-onset climate events in Melanesia – ranging from more intense cyclones and floods to prolonged droughts, rising temperatures, shifting rainfall patterns, and sea-level rise. Across Papua New Guinea, Solomon Islands and Vanuatu, participants described these events not as isolated incidents but as **cumulative stressors**, creating a cycle of preparation, survival, and recovery with no clear reprieve. This constant strain is not only undermining food security and public health systems – it is also deepening nutritional vulnerability.

There is a triple burden of malnutrition across Melanesia

Papua New Guinea, Solomon Islands and Vanuatu are facing a triple burden of malnutrition, with high levels of stunting and wasting among children under five, micronutrient deficiencies in children and PLW, and rising rates of overweight/obesity among both children and women (Table 1).



Protecting the livelihoods of children and vulnerable communities is a key focus of Save the Children's work in the Pacific.
Photo: Conor Ashleigh / Save the Children

Table 1: Prevalence of the triple burden of malnutrition among women and children in Papua New Guinea, Solomon Islands and Vanuatu

	PAPUA NEW GUINEA	SOLOMON ISLANDS	VANUATU
Prevalence of stunting (children under five)	48.2%	31.6%	29.1%
Prevalence of wasting (children under five)	16.2%	7.9%	7.8%
Anaemia (children under five)	46.7%	38.1%	31.0%
Anaemia (pregnant women)	30.9%	34.8%	32.3%
Overweight and obesity (children under five)	13.7% overweight (and rising)	3.9% overweight (and rising)	9.5% overweight (and rising)
Overweight and obesity (women)	57.3% overweight and obese	29.5% overweight, 17.9% obese	30.6% overweight, 23.5% obese

Source: Stunting, wasting and overweight data are from the most recent nationally representative surveys available, except for overweight in women in Papua New Guinea which was from WHO (2022). Anaemia prevalence are from the most recent WHO estimates. (National Statistical Office [Papua New Guinea], 2010; Solomon Islands National Statistics Office et al., 2017; Vanuatu Bureau of Statistics, 2024; WHO, 2019; WHO, 2022; WHO, 2023).

Climate change is driving malnutrition through a series of pathways: food, health and WASH

Climate change drives malnutrition via interlinked food, health, and water, sanitation, and hygiene (WASH) pathways. Figure 1 illustrates the pathways linking climate change to malnutrition in the study countries, showing how climate change disrupts food, WASH and health systems, leading to nutrition insecurity and ultimately malnutrition. It is modelled on a conceptual framework of pathways in the Asia-Pacific region developed by Cresta, et al. (2025) and highlights that the impacts are unequally distributed based on gender, age, disability, income, and social marginalisation.

Food systems pathway

The most direct and well-studied route between climate change, climate variability and malnutrition is through reduced food production, which in turn reduces food availability, stability and accessibility. In each of the three countries, food production from farming and fishing is expected to decrease due to the impacts of climate change and other environmental pressures. In addition, climate change disrupts livelihoods, which lowers income and, compounded by inflation, reduces economic accessibility to food. It can also hinder physical access to markets, particularly in remote areas, when disasters damage infrastructure. These factors combined contribute to a shift towards a 'nutrition transition' – away from traditional diets towards unhealthy diets high in ultra-processed foods (FAO, 2023).

Health systems pathway

Extreme weather events damage healthcare facilities and transportation networks, reducing access to health services, lowering the quality of care, and causing interruptions in health service delivery and supply chains in already challenging contexts – particularly for vulnerable and remote populations. Climate-sensitive diseases like malaria are increasing (FAO, 2023), which participants confirmed, and concerns were also raised about adverse birth outcomes, attributed to poor maternal nutrition and strain.

WASH systems pathway

Climate change reduces the availability, accessibility and safety of water resources – crucial to health and nutrition (WFP, 2024). Participants cited the role of droughts and erratic rainfall on water shortages, while cyclone and flood damage to rain tanks and latrines caused water contamination. These disruptions increase the risk of waterborne diseases including diarrhoeal disease, dengue, and malaria which impact food utilisation.

CLIMATE CHANGE TO MALNUTRITION PATHWAY: Papua New Guinea, Solomon Islands and Vanuatu

Figure 1: Pathways between climate change and nutrition

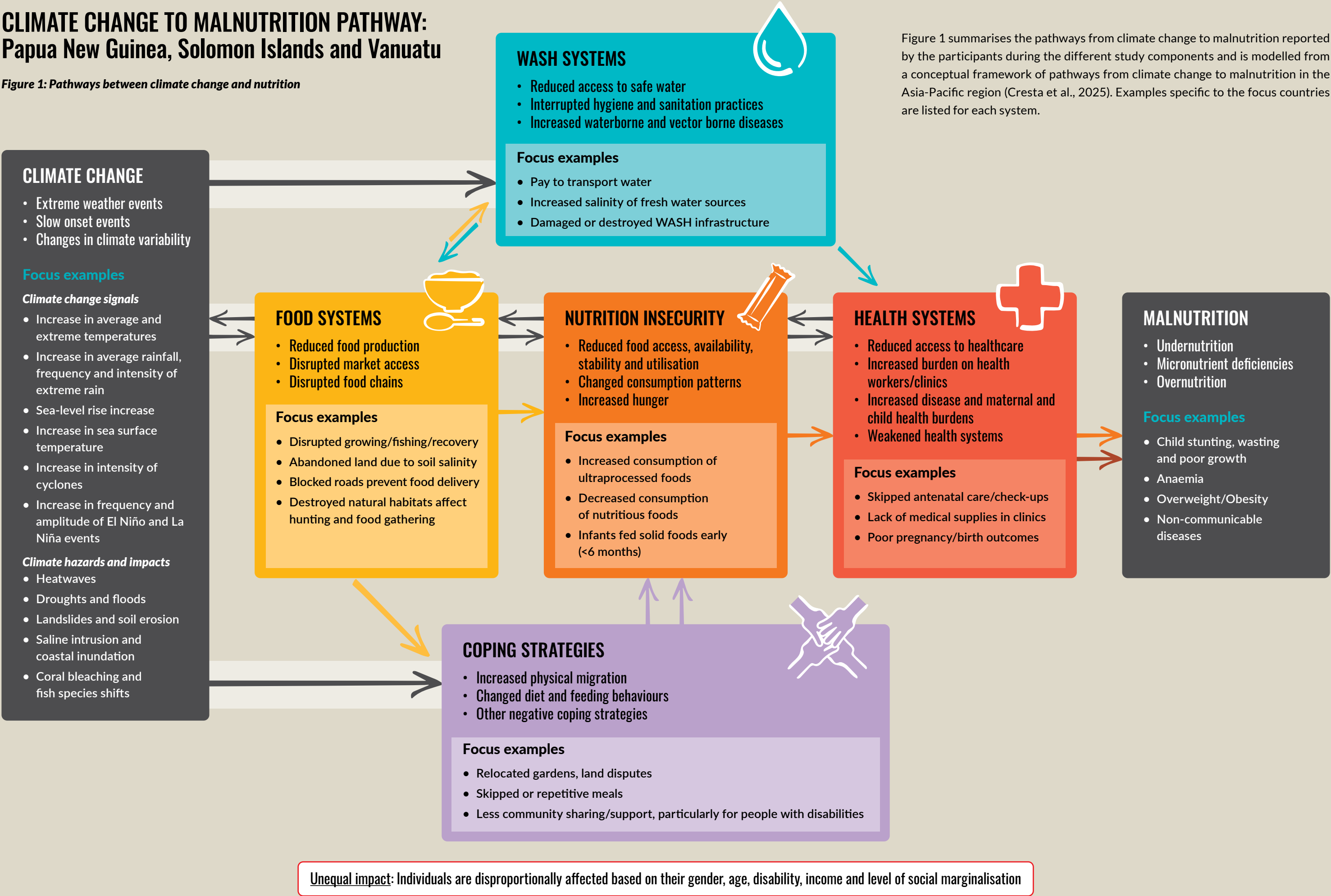


Figure 1 summarises the pathways from climate change to malnutrition reported by the participants during the different study components and is modelled from a conceptual framework of pathways from climate change to malnutrition in the Asia-Pacific region (Cresta et al., 2025). Examples specific to the focus countries are listed for each system.

Intersecting socio-economic drivers amplify climate impacts on nutrition

There are a range of social and structural factors that compound the effects of climate change on child and maternal nutrition:

- **Gender inequities and gender-based violence:** The effects of climate change can lead to heavier female workloads, and disruptions – given women’s engagement in the informal workforce. Fatigue and time scarcity undermine PLW’s ability to breastfeed or care for children. In addition, climate change can exacerbate underlying causes of gender-based violence by increasing stress, poverty, displacement, and resource competition, which also negatively impacts child nutrition.
- **Disability and exclusion:** Persons with disabilities, especially in inland rural areas, face structural barriers to food and services that are worsened during climate extremes.
- **Gaps in nutrition knowledge and misinformation:** Gaps in nutrition knowledge combined with misinformation and cultural taboos reduce uptake of diverse and nutritious diets.
- **Income insecurity and land access:** Access to reliable income and to land play a significant role in accessing sufficient and nutritious food, as well as key health and nutrition services.
- **Substance use and neglect:** Use of substances such as kava, marijuana, and alcohol – sometimes as a coping mechanism for stressors – redirects household spending and reduces care capacity.
- **Erosion of food sharing systems and social networks:** Traditional food sharing and mutual assistance systems, which help communities in times of hardship are becoming less common in the face of declining local yields and worsening shortages. This erosion of collective support systems leaves vulnerable people even more exposed to the impacts of food and nutrition insecurity.

There is a need to deepen the climate-nutrition nexus in policy and programs

There are several promising policies and programs that have begun to address the **intersection of climate change and nutrition**, particularly within food systems. However, integration remains uneven across health, WASH, and social protection sectors.

Food systems show the most progress towards integrating climate and nutrition, including climate resilient agriculture, water management, smallholder farmer income support and targeted training on local and diverse crops/foods to support women and people with disabilities in remote islands, as well as allocating budgets to reduce losses and safeguard development gains during and after disasters.

Health system initiatives score lower on integration of climate and nutrition, with limited programs targeting remote areas, vulnerable populations, and rising obesity and non-communicable diseases. These programs are expanding mobile clinics, integrating nutrition surveillance with digital tools, and strengthening rural health infrastructure.

WASH initiatives show mixed progress but lack sufficient focus on peri-urban informal settlements and disability inclusion. The three countries are notable for limited formal **social protection systems**. Though promising cash-based assistance programs are emerging, their effectiveness is dependent on market and accessibility constraints in rural and remote settings.

Action areas for policy and programming

There is an urgent need to work with governments, development partners and civil society organisations on the integration of climate and nutrition into existing national food, health, and WASH policies and programs.

There are **five thematic pillars** with actions to prioritise at policy and program levels:

Climate-resilient, nutrition-sensitive food systems

Food loss from climate impacts and rising dependence on imported, low-nutrient foods.

POLICY ACTIONS:

- Include nutrition-sensitive agriculture in the national climate change, agriculture, and food security policies.
- Highlight the connection between climate change and malnutrition.

PROGRAM ACTIONS:

- Support diversified and climate tolerant crops in home gardens and food preservation activities which can build on existing agriculture programs.
- Integrate provisions for vulnerable groups.
- Support initiatives that safeguard biodiversity.
- Integrate strong SBCC approaches.
- Support the diversification of livelihoods.

Nutrition and child-sensitive, adaptive social protection

Highly vulnerable households struggle to buy nutritious/diverse foods when staples fail or prices spike.

POLICY ACTIONS:

- Promote the greater adoption of anticipatory and adaptive social protection programs in government policies with a focus on nutrition-sensitive schemes (linked to climate or price thresholds).

PROGRAM ACTIONS:

- Continue to pilot cash-based assistance programs to improve the health and nutrition of PLW and children under five.
- Add nutrition-sensitive top-ups to any future anticipatory cash triggers.
- Introduce community food-basket vouchers redeemable for local fish, fruits, and vegetables, triggered in response to extreme weather events.

Climate-adapted RMNCH and outreach health services

There are essential health service gaps in rural/outer-island areas during storms, floods or droughts which disproportionately affect children and PLW.

POLICY ACTIONS:

- Embed climate adaptation clauses (mobile outreach triggers, surge staffing) in RMNCH guidelines and health-sector contingency plans.
- Ensure the unique needs of the First 1,000 Days are addressed.
- Acknowledge the emerging concerns of obesity and NCDs in relation to climate change.

PROGRAM ACTIONS:

- Strengthen rural health systems including scale up of outreach programs, particularly in remote and rural areas.
- Pre-position staff kits for post-disaster periods.
- Integrate climate-health messaging into routine health promotion, including breastfeeding promotion, and invest in community level health support networks.

Inclusive, climate-resilient WASH infrastructure

Water insecurity and inaccessible facilities due to climate impacts are drivers of diarrhoeal disease and caregiving burden.

POLICY ACTIONS:

- Update national WASH design codes to require flood, saltwater intrusion and heat-resilient infrastructure, and universal design for disability inclusion.

PROGRAM ACTIONS:

- Expand infrastructure, hygiene promotion and equitable service delivery in peri-urban areas and informal settlements, given increasing urban drift.
- Prioritise and enforce WASH infrastructure standards that meet the specific needs of people with disabilities.

Cross-sectoral coordination and alignment

Siloed budgets and weak coordination across policy, implementation and data management hinder scale-up and donor alignment across the region.

POLICY ACTIONS:

- Establish cross-sector inter-ministerial Climate-Nutrition Task Forces in each country, linked regionally.
- Strengthen regional data collection and sharing, including gender-disability requirements to inform inclusive policies and programs.

PROGRAM ACTIONS:

- Align actions with existing policies and help draw together ministries and stakeholders through common climate, nutrition, food, health, WASH and equity goals.
- Engage cross-sectoral community networks.
- Support the learning and replication of good practice climate-nutrition sensitive programming and ensure strong MEAL investment to create and utilise evidence.

Conclusion

Climate change is intensifying nutrition vulnerabilities for women and young children in Papua New Guinea, Solomon Islands and Vanuatu, especially during the critical First 1,000 Days, by affecting food, health, and WASH systems amid existing socio-economic inequalities. By integrating nutrition into climate adaptation across agriculture, health, social protection, and infrastructure, governments and partners can protect vulnerable populations and build resilience to prevent irreversible impacts.



Governments can increase resilience through integrating climate-nutrition solutions into policies and programs.
Photo: Conor Ashleigh / Save the Children

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