International Journal of Multidisciplinary Research and Growth Evaluation.

Samoan Views on the Impacts of External and Internal Factors on Agricultural Produce Prices in Samoa

Raphael Semel [1*], Pulou Wright [2], Felila Saufoi Amituanai [3], Rachel Pela Malia Bell [4]
[1-3] National University of Samoa, Samoa
[4] National University of Samoa & Sekolasitika Emmafaithful Vitale, National University of Samoa, Samoa

* Corresponding Author: **Raphael Semel**

Article Info

ISSN (Online): 2582-7138
Impact Factor (RSIF): 7.98
Volume: 06
Issue: 05
September - October 2025
Received: 05-08-2025
Accepted: 06-09-2025
Published: 03-10-2025
Page No: 616-623

Keywords: Economic, Shocks, Price, Local Produce

Abstract
Samoa has experienced a steep 10.9% rise in food prices in 2024, driven by global crises including COVID-19, wars, and climate disasters, and domestic factors such as population growth, labor costs, and supply-demand imbalances. This mixed-methods study employs a Likert scale survey of 39 participants (farmers and consumers) in Upolu to identify inflation drivers and underscores the urgent need for policy interventions to stabilize local markets. Key findings highlight climate change impacts, rising labor costs, and global supply chain disruptions as critical contributors to price volatility.

Introduction

The cost of living, especially the prices of goods and services, is rising. Soaring food and energy costs are affecting populations globally. The global surge in living costs, driven by soaring food and energy prices, has pushed an estimated 125 million people into poverty in June 2025, according to the World Bank report (World Bank, 2025) [58]. The United Nations Development Programme (UNDP, 2022) [55] estimated that 71 million people fell into poverty in 2022. UNDP Administrator Steiner (UNDP, 2022) [55] noted that unprecedented price surges have rendered adequate food unattainable for many. Current monthly food price increases outpace stagnant wages and low pay, leaving those on fixed incomes or unable to work particularly vulnerable. Herron, Lewis, *et al*. (2023) [34] emphasized that such conditions erode purchasing power, limiting access to affordable food options.

The 2008 global financial crisis severely impacted m financial institutions, many of which faced insolvency or required government bailouts. Recovery from such crises is protracted, exacerbating long-term effects on living costs and commodity prices. As companies and individuals were rebuilding, the COVID-19 pandemic struck, triggering widespread business closures, layoffs, and supply chain disruptions that further inflated prices. Concurrently, climate-related disasters, cyclones, floods, wildfires, and earthquakes worsened economic strain. Conflicts in Ukraine and Gaza, alongside other geopolitical tensions, fueled inflation, resulting in a 166.8% increase in natural gas costs over 12 months in 2022 (UNDP, 2022; Hokayem, 2023) [55, 24].

According to UNDP (2022) [55], countries most affected by these crises include Armenia and Uzbekistan in Central Asia; Burkina Faso, Ghana, Kenya, Rwanda, and Sudan in sub-Saharan Africa; Haiti in Latin America; and Pakistan and Sri Lanka in South Asia. Even in developed nations, financial hardship persists: a recent World Economic Forum Ipsos poll on May 10, 2022, found that 1 in 4 individuals in these regions struggle financially.

These external pressures, combined with internal factors such as high import costs, local supply-demand imbalances, Samoan dietary habits, rising farming labor expenses, and household spending, have driven up prices of goods and services, including local garden produce. In Samoa's small economy, characterized by low minimum wages and limited employment opportunities, Samoan households' purchasing power is also significantly affected by migrant remittances to households, which increase households' total disposable incomes.

These, too, however, may be constrained by conditions in economies in which migrants are working and limit their capacity to remit. As household budgets shrink, families are forced to prioritize cheaper food and essentials (Aliyeva, Faaola and Troubat 2020) [53].

Literature Review

Prices of Produce

In recent years, the global community has witnessed rising average food prices, frequent food price shocks, and heightened price volatility (Khanna, 2021; Manisankar and Vaishnavi, 2022) [31, 36]. The instability of agricultural commodity prices, coupled with increasing demand, has raised concerns about population growth and socioeconomic development (Derick, 2023; Dorward, 2013) [13, 15]. These trends threaten food security, particularly for vulnerable populations, by exacerbating the impacts of price shocks and volatility.

Three key phenomena must be differentiated in pricing analysis: trends, volatility, and spikes (Braun and Tadesse, 2012; Cunado, Diaz, and de Gracia, 2024) [6, 14]. Trends reflect long-term price movements, while volatility measures the frequency and magnitude of short- to medium-term fluctuations. Price spikes refer to sudden, sharp increases or decreases. Assessing these dynamics requires accounting for ongoing challenges such as climate change, natural disasters, geopolitical conflicts, pandemics, and technological advancements (Dorward, 2013; Derick, 2023; Cunado, Diaz, and de Gracia, 2024) [13-15].

Since the 2007 food crisis, researchers and policymakers have sought to identify the drivers of food price volatility and propose mitigation strategies (Braun and Tadesse, 2012; Jung, Kang, *et al*., 2024; Dasgupta and Robinson, 2022) [6, 30, 11]. Studies emphasize the complexity of price formation mechanisms, which demand continuous evaluation to inform evidence-based policies (Jung, Kang, *et al*., 2024; Herron, Lewis, *et al*., 2023) [30, 34].

Empirical and theoretical analyses identify three primary drivers of volatility: Supply-side shocks (e.g., extreme weather events); Demand-side pressures (e.g., biofuel production); and Market-side speculation in commodity futures (Braun and Tadesse, 2012; Bilro, Loureiro, and Souto, 2023; Rai, 2021) [6, 5, 42]. While speculative trading in futures markets is often criticized, it can also enhance liquidity and risk management when tied to physical market fundamentals (Govereh and Jayne, 2003; Jung, Kang, *et al*., 2024) [17, 30]. However, manipulative speculation exacerbates short-term price spikes, surpassing the impact of supply and demand shocks (Braun and Tadesse, 2012) [6]. Policymakers must distinguish between constructive market participation and harmful financialization to stabilize food systems (Johnstone, Saridakis, and Wilkinson, 2019; Dasgupta and Robinson, 2022) [27, 11].

Fluctuation of prices

Price fluctuations are a common phenomenon during periods of reduced demand, production surpluses, or shortages (Han, 2025) [19]. Research by Alsamara, Awwad, Mimouni, and Mrabet (2025) [38] highlights the dynamic relationship between supply chains and consumer prices, particularly during crises such as wars, the global financial crisis, the COVID-19 pandemic, and climate-related disasters (Seddighi, 2020; Dasgupta and Robinson, 2022; Johnstone, Saridakis, and Wilkinson, 2019) [47, 11, 27]. These factors disrupt supply and demand, driving price volatility.

The ongoing wars in Ukraine (Russia-Ukraine conflict) and Gaza (Israeli-Palestinian conflict) have triggered regional and international economic shocks, escalating prices of goods and services (Cunado, Diaz, and de Gracia, 2024) [14]. These conflicts disrupt supply chains for energy, finance, and consumer goods (Raine, 2024) [43]. The US-initiated trade wars have sparked significant global economic instability, triggering widespread market volatility in different countries. Other global crises, such as political tensions in Niger and gang violence in Haiti exacerbated by climate change, further destabilize markets (Bieler, 2025) [4].

Since the 2008 global financial crisis, the international economy has struggled to recover, leading to rising costs of living, stagnant wages, and soaring housing expenses (Thakor, 2015; Agrawal, Nangia, and Reddy, 2014) [52, 44]. The current tariffs imposed by the US President on China and other countries have significantly increased the cost of living: by producing higher consumer prices, job losses in vulnerable sectors, and strained alliances (Grossman, Helpman, and Redding, 2024) [18]. It has also disrupted global supply chains and triggered retaliatory measures from countries like China, which are in a position to retaliate. These forces have amplified price volatility globally (Fernando and McKibbin, 2023; Herron, Lewis, *et al*., 2023) [37, 34].

Climate change intensifies these pressures through more frequent and more intense natural disasters, the redistribution of pests and diseases, and crop failures. For example, wildfires in Southern Europe and North America (Healy, January 20, 2025) [21] and events like the Ethiopian landslide, Typhoon Yagi, and Spanish floods disrupt transportation and supply chains, indirectly inflating consumer prices (Schroeder, 2024) [46]. Rebuilding efforts require billions in funding, further straining economies (Pradana, Ihsan, and Munichputranto, 2025; Das, 2025) [41, 10].

Supply and demand induce volatility

The interplay between supply, demand, and market dynamics has been categorized into external and internal factors to explain high and volatile global prices (Fukase and Martin, 2020) [16]. External factors such as wars, global financial crises, and pandemics like COVID-19 contribute to trends, volatility, and price spikes (Johnstone, Saridakis, and Wilkinson, 2019) [27]. Internal factors include extreme weather events, labor shortages, and poor crop yields (Binns, Latai, and Nel, 2019) [33]. Positive developments in both external and internal factors could lower supply costs, while adverse circumstances influence supply and demand, causing prices to rise or fall (Fukase and Martin, 2020) [16].

Population growth, migration patterns, and health trends also shape supply and demand (Peterson, 2017; de Ridder, Kroese, *et al*., 2017) [40, 12]. Peterson (2017) [40] argued that increasing populations demand and supply for agricultural produce. Hardin and Kwauk (2015) [20] noted that declining populations reduce supply and demand. Either way, prices are impacted (Peterson, 2017) [40]. Child nutrition and public health priorities directly influence market dynamics (de Ridder, Kroese, *et al*., 2017) [12]. Rising birth rates and heightened health awareness drive demand for organic agricultural products (Herron, Lewis, *et al*., 2023) [34]. The declining birth rates and lower health consciousness levels reduce demand (de Ridder, Kroese, *et al*., 2017) [12].

Produce prices themselves also influence supply and demand (Derick, 2023) [13]. Lower prices for agricultural goods

typically boost demand and supply, whereas higher prices suppress them (Ayob and Hussain, 2016; Cunado, Diaz, and de Gracia, 2024) [2, 14].

Local food produce prices

The cost of imported products and food currently exceeds Samoa's foreign exchange earnings and is weakening the country's balance of payments (Central Bank of Samoa, 2025) [8]. This has prompted the government to encourage citizens to engage in farming and local production (Hardin and Kwauk, 2015) [20]. Household food expenditure in Samoa is heavily influenced by availability and pricing (Schroeder, 2024; Binns, Latai, and Nel, 2019) [46, 33]. High import costs have also led to markups on local produce (Braun and Tadesse, 2012; Duval and Jegasothy, 2003) [6, 26].

Expenditure on energy food like rice, taro, banana, as well as protein food like fish, pork, and lamb flaps, is higher in both urban and rural households. The Food and Agriculture Organization and the Samoa Bureau of Statistics report presents the main results derived from the analysis of the food data and the Food Insecurity Experience Scale data collected in the 2018 Household Income and Expenditure Survey in their published report in 2020 on current patterns on food security and nutrition in Samoa. According to the report Household Income Expenditure Analysis Survey, Samoan households allocate significant portions of their budgets to imported and local vegetables and fruits (Aliyeva, Faaola, and Troubat, 2020) [53]. Rising expenditure shares for these items classify them as superior goods, with heightened demand driving price increases.

A gradual time effect on expenditure elasticities for vegetables and fruits confirms dietary improvement trends (Duval and Jegasothy, 2003) [26]. Price elasticity is higher in urban areas compared to rural regions, reflecting stronger market demand and price sensitivity (Aliyeva, Faaola, and Troubat, 2020) [53]. Factors such as locality, availability, household budgets, and temporal shifts further influence price fluctuations (Hawley, Seiden, *et al*., 2012; Aliyeva, Faaola, and Troubat, 2020) [48, 53].

Prices of Samoan coconut products, fruits and vegetables, and starchy root crops—all locally grown—have risen significantly in recent years (Aliyeva, Faaola, and Troubat, 2020; Dempewolf, Jones, *et al*., 2011) [53, 28]. Dietary studies link this trend to increased consumption of organic local foods (Dempewolf, Jones, *et al*., 2011) [28]. The interplay between food availability, household budgets, nutritional preferences, and dietary behaviors exacerbates price volatility (Duval and Jegasothy, 2003; Hardin and Kwauk, 2015; Aliyeva, Faaola, and Troubat, 2020) [26, 20, 53]. Samoan consumers' strong preference for local foods makes demand highly responsive to price changes (Herron, Lewis, *et al*., 2023; Hardin and Kwauk, 2015) [34, 20].

Local producers prioritize domestic agriculture to enhance financial prosperity and promote healthier consumption (Hardin and Kwauk, 2015; Herron, Lewis, *et al*., 2023) [20, 34]. This trend, and a lack of competition from imported commodities in most of these food groups, empower subsistence farmers to set prices autonomously (Aliyeva, Faaola, and Troubat, 2020) [53].

External factors—such as the global financial crisis, trade wars, geopolitical conflicts, climate change, and the COVID-19 pandemic—exert ripple effects, significantly increasing local prices (Li, Tu, and Wang, 2021; Fernando and McKibbin, 2023; Dasgupta and Robinson, 2022) [54, 37, 11]. These crises disrupt transportation and supply chains, exacerbating demand-supply imbalances (Cunado, Diaz, and de Gracia, 2024) [14]. Irregular or halted food imports further spike local produce prices (Herron, Lewis, *et al*., 2023) [34], while imported goods and services also become costlier.

Compounding these issues, external shocks lead to layoffs, industry closures, restricted mobility (Li, Tu, and Wang, 2021; Wolbers, Kuipers, and Boin, 2021) [54, 57], and scarce relief assistance (Naranjo, Ng, Schlotzhauer, *et al*., 2021) [39]. These phenomena may, however, also drive people back into subsistence agriculture and increase primary production with effects on demand and supply in local markets. These effects burden households' and governments' budgets, deepening socio-economic hardship.

Research Methodology

The study employed a Likert scale questionnaire survey to collect data from 18 farmers and 21 customers in the Upolu region of Samoa. The questionnaire focused on identifying respondents' opinions and or beliefs about internal and external factors driving price rises. The survey utilized a rating scale to assess respondents' perspectives, understanding, and knowledge regarding the causes and effects of price volatility.

The questionnaire comprised statements and questions on topics such as the global financial crisis, wars, climate change, COVID-19 aftermaths, imported goods, supply and demand dynamics, labor costs, and the high cost of living. Respondents selected from four options: strongly agree, agree, disagree, and strongly disagree. As noted by Ho (2016) [22], Likert scales enable nuanced measurement of agreement and perceptions. Chandel, Joshi, Kale, and Pal (2015) [29] and Chakrabartty (2014) [9] caution that such scales risk bias, as respondents may uniformly agree or disagree due to fatigue, social desirability, or extreme response tendencies. While Likert scales reveal the distributions of views from respondents, they cannot alone capture the information or explain the beliefs on which informants' perceptions rest. It requires additional time and resources to further research these areas.

The sample included 39 participants (farmers and customers aged 22–70), randomly selected from Upolu. Respondents from Savaii could not be included due to lack of resources, time and the commitments of researchers. The questionnaire featured 17 statements using a 4-point Likert scale (SA, A, D, SD). Participants were given two days to complete the survey, after which responses were collected. The data were analysed using the arithmetic mean to generate findings presented in the tabulated results.

Discussion

Analysis

The prices of local garden produce in Samoa have steadily increased over the past few years. According to the Samoa Bureau of Statistics (2024) [45] local market survey, taro prices rose by nine percent, bananas by two percent, taamu by one percent, coconuts by eight percent, yams by 54 percent, and breadfruit decreased by one percent. These price hikes led to a 25 percent increase in the number of sellers entering local markets to sell their products in August 2024. During the same month, vegetable supplies surged significantly: cucumbers saw the largest increase at 50 percent compared to the previous month, followed by tomatoes (45 percent), pumpkins (29 percent), Chinese

cabbage (25 percent), and head cabbage (14 percent) (Samoa Bureau of Statistics, 2024) [45].

Producers face significant challenges from multiple interconnected factors, including the lingering effects of Trump's tariffs, COVID-19 supply chain disruptions, climate change impacts, rising living costs, domestic inflation, volatile imported vegetable prices, and geopolitical conflicts. These pressures highlight their vulnerability to global market volatility, compelling them to adjust pricing strategies for their produce.

Below are Tables 1 and 2, the response analysis from the research participants.

Table 1: Likert Scale Survey Customers' Responses

	Why have the prices of Samoan garden food increased?	SA	%	A	%	D	%	SD	%	Total	Total %
1	World problems and wars contributed to garden food prices increased	4	19	11	52	3	14	3	14	21	100
2	Global economic financial crisis affected garden food prices increased	5	24	14	66	1	5	1	5	21	100
3	Prices of imported vegetables increased so farmers increased their prices of garden food	9	43	11	52	1	5	0	0	21	100
4	Samoa's prices of goods and services have increased causing garden food prices to increase too	6	29	14	66	1	5	0	0	21	100
5	Residents' population increased causing Samoa garden food to meet the demand with price increases	3	14	13	62	4	19	1	5	21	100
6	COVID-19 caused the prices of Samoan garden food to increase	11	52	5	24	5	24	0	0	21	100
7	Climate change caused less produce of garden food which increased prices	11	52	9	43	1	5	0	0	21	100
8	Demand for Samoa garden food is high causing prices to increase	5	24	13	62	3	14	0	0	21	100
9	Local farmers spent too much time and energy increasing prices to meet their hard work	5	24	14	67	2	9	0	0	21	100
10	Labor costs for volunteers to plant and harvest caused garden food prices to increase	7	33	14	67	0	0	0	0	21	100
11	Garden tools are expensive causing local farmers to increase their garden food prices	7	33	13	62	0	0	1	5	21	100
12	Lots of Samoa garden food was exported and less remains so the prices are high	4	19	12	57	4	19	1	5	21	100
13	Residents loved Samoa garden food more than imported ones causing prices to increase	5	24	12	57	4	19	0	0	21	100
14	Other things are expensive so farmers increased their garden food prices to meet these costs	10	48	9	42	1	5	1	5	21	100
15	Fewer farmers working on the garden now so they produce less. So, prices of garden food are high	5	24	12	57	4	19	0	0	21	100
16	The soil now lacks nutrients to produce a good harvest causing garden food to increase in prices	4	19	12	57	5	24	0	0	21	100
17	Samoans go into commercial activities. Less gardening increased the prices of produce	4	19	13	62	4	19	0	0	21	100

Table 2: Likert Scale Survey Farmers' Responses

	Why have the prices of Samoan garden food increased?	SA	%	A	%	D	%	SD	%	Total	Total %
1	World problems and wars contributed to garden food prices increased	10	56	5	28	3	16	0	0	18	100
2	Global economic financial crisis affected garden food prices increased	8	44	8	44	2	11	0	0	18	100
3	Prices of imported vegetables increased so farmers increased their prices of garden food	6	33	9	50	2	11	1	6	18	100
4	Samoa's prices of goods and services have increased causing garden food prices to increase too	8	44	9	50	1	5	0	0	18	100
5	Residents' population increased causing Samoa garden food to meet the demand with price increases	4	22	5	28	7	39	2	11	18	100
6	COVID-19 caused the prices of Samoan garden food to increase	9	50	8	44	1	6	0	0	18	100
7	Climate change caused less produce of garden food which increased prices	9	50	8	44	1	6	0	0	18	100
8	Demand for Samoa garden food is high, causing prices to increase	7	39	9	50	2	11	0	0	18	100
9	Local farmers spent too much time and energy increasing prices to meet their hard work	8	44	8	44	1	6	1	6	18	100
10	Labor costs for volunteers to plant and harvest caused garden food prices to increase	8	44	5	28	5	28	0	0	18	100
11	Garden tools are expensive causing local farmers to increase their garden food prices	6	33	9	50	2	11	1	6	18	100
12	Lots of Samoa garden food was exported and less remains so the prices are high	3	17	8	44	6	33	1	6	18	100
13	Residents loved Samoa garden food more than imported ones causing prices to increase	8	44	6	33	3	17	1	6	18	100
14	Other things are expensive so farmers increased their garden food prices to meet these costs	10	56	4	22	4	22	0	0	18	100
15	Fewer farmers working on the garden now so they produce less. So, prices of garden food are high	7	39	7	39	4	22	0	0	18	100
16	The soil now lacks nutrients to produce a good harvest causing garden food to increase in prices	6	33	9	50	3	17	0	0	18	100
17	Samoans go into commercial activities. Less gardening increased the prices of produce	10	56	6	33	2	11	0	0	18	100

Respondents' responses to statements about external factors

Global challenges like pandemics, civil wars, and natural disasters have significantly driven up prices of goods and services internationally, regionally, and locally (Herron, Lewis, *et al*., 2023; Cunado, Diaz, and de Gracia, 2024) [34, 14]. Eighty-four percent of farmers agreed that global factors stem a direct link to global input cost volatility of fuel, fertilizers, and equipment, while only 71 percent of customers acknowledge it. The financial pressures compel farmers to raise prices, while customers lack awareness of how supply chain dynamics link global conflicts to local costs. Cunado, Diaz, and de Gracia (2024) [14] explained that high inflation rates trigger shocks to local produce prices. The government plays a key role in regulating policies for procurement and distribution to ensure sufficient supply and reasonable prices (Derick, 2023; Lock, Wonneberger, and Steenbeek, 2024) [13, 35].

Herron, Lewis, *et al*. (2023) [34] linked price surges to COVID-19. The pandemic exposed vulnerabilities in global food systems (Herron, Lewis, *et al*., 2023) [34], with respondents who emphasized pandemic-driven price escalation. Farmers' 94 percent agreement reflects their direct experience with COVID-19's operational disruptions, whereas customers' 76 percent agreement indicates a more removed consumer perspective. The six percent of farmers and 24 percent of customers who disagreed highlight that while both groups acknowledge systemic pressures, they prioritize these challenges differently.

Dasgupta and Robinson (2022) [11] highlighted climate impacts on food production, nutrition, and health costs. Binns, Latai, and Nel (2019) [33] emphasized its effects on Samoa, including rising temperatures and erratic rainfall. The survey data reveals strong consensus among both farmers (94 percent agreed) and customers (95 percent agreed) that climate change significantly impacts food production and prices, aligning with findings by Dasgupta and Robinson

(2022) and Binns *et al*. (2019) [11, 33]. Six percent of farmers disagreed, acknowledged climate impacts but prioritized operational challenges like labour shortages and tool costs, while customers' five percent disagreed, attributed price hikes to local factors like population growth and inflation rather than environmental drivers.

Survey data and academic literature (Cunado, Diaz, *et al*., 2024; Hardin and Kwauk, 2015) [14, 20] highlight a broad consensus on global inflation's role in driving up local garden food prices, though farmers and customers differ in how and why they perceive this linkage. Only 50 percent of farmers agreed, attributing this to direct exposure to imported input costs like fertilizers, tools, and fuel tied to global markets, whereas customers showed slightly higher agreement (66 percent), as they experience inflation through retail prices and attribute hikes to a mix of global and local factors. The five percent of customers and five percent of farmers who dissented attributed price increases to local issues like population growth and labour costs rather than global drivers. Jung, Kang, *et al*. (2024) [30] noted that machinery costs burden farmers, prompting leasing alternatives. The disparity in agreement between customers (95 percent) and farmers (83 percent) on gardening tools' and machinery costs, along with disagreements from 17 percent of farmers and five percent of customers, reflects distinct perspectives shaped by proximity to production challenges and market dynamics. Customers, directly experiencing retail price hikes, attribute these increases to visible costs like tools, often emphasized in media reportage and market narratives. Farmers, however, prioritize broader challenges such as soil quality, fuel costs, and climate volatility as the primary drivers of price surges.

Farmers and customers hold distinct perspectives on the global factors driving price surges in goods and services, including local garden produce. Their differing roles, statuses, and behaviours shape their perceptions and reasoning, resulting in divergent responses to survey questions. Farmers, directly exposed to input costs like fuel and fertilizer volatility, often prioritize systemic challenges such as climate disruptions and supply chain bottlenecks, while customers, focused on affordability, disproportionately attribute price hikes to localized issues like inflation or labour costs.

Respondent's responses to statements about internal factors

As noted by Ayob and Hussain (2016) [2], price-conscious customers prefer local produce over expensive imports. However, rising prices for both local and imported goods (Cunado *et al*., 2024) [14] have caused frustration, with 95 percent of customers attributing local farmers' price increases to expensive imports. While 83 percent of farmers agreed with this linkage, 17 percent of farmers and five percent of customers rejected it, emphasizing other drivers like production costs or inflation. Aliyeva *et al*. (2020) [53] contextualized this tension, noting that locally produced goods, once cheaper, have now seen significant price hikes, further complicating consumer perceptions.

Sixty-five percent of customers perceive population growth and resultant increases in demand as a direct cause of scarcity, aligning with Peterson's (2017) [40] argument about limited resources. Farmers, however, are evenly divided, with 50 percent agreeing and 50 percent rejecting this connection. Meanwhile, 46 percent of customers also challenge the role of population growth in driving scarcity, underscoring broader disagreements about the primary drivers of resource strain. Herron, Lewis, *et al*. (2023) [34] expand this discourse by linking food price escalation to compounding factors such as COVID-19, climate change, and conflicts, highlighting the multifaceted nature of resource challenges.

Farmers' 77 percent agreement underscores the cultural and health value they associate with traditional foods, which they argue justifies their production efforts and price increases. The heightened demand validates their role in preserving Samoan food heritage, yet presents challenges in scaling production sustainably. Meanwhile, 81 percent of customers prioritize the health benefits and sustained energy derived from traditional foods, as noted by Dempewolf *et al*. (2012) [28]. However, their agreement may also reflect frustration with rising prices, as increased demand strains affordability. Twenty-three percent of farmers and 19 percent of customers rejected the notion that Samoans' preference for traditional foods drives price hikes, attributing increases to broader economic and production challenges.

Farmers' overwhelming support price increases as justified compensation for their labour-intensive work, with 88 percent in agreement. This aligns with Cardella and Roomets' (2022) [7] argument that effort and productivity should drive pay adjustments. However, subsistence farmers who agree often face systemic barriers like limited market power and informal economic structures, which prevent them from implementing hikes. Meanwhile, 91 percent of customers recognise farmers' labour value and view price increases as ethically necessary to sustain food quality. However, 12 percent of farmers and nine percent of customers rejected the notion that labour-intensive work warrants price surges.

The debate over labour costs influencing food prices centers on two perspectives: compensating volunteers leading to price hikes versus relying on FaaSamoa (Ioane and Tudor, 2017) [25] for unpaid labour. This analysis contrasts farmers' and customers' viewpoints, grounded in Rai's (2021) [42] emphasis on farmer welfare and Anae *et al*.'s (2017) [1] insights into Samoan cultural practices. Seventy-two percent of farmers and all customers advocate for fair compensation for volunteers, aligning with Rai's (2021) [42] assertion that such remuneration is critical for agricultural growth. Farmers argue that raising prices to cover these costs is essential to sustain their economic viability. However, 18 percent of them continue to rely on familial labour exchanges, avoiding direct payments.

Farmers engaged in exporting often prioritize international markets for higher profitability, aligning with Hardin and Kwauk's (2015) [20] emphasis on exports as a pathway to financial empowerment through increased returns on investment. By diverting produce to exports, farmers seek to secure better prices, incentivising production investments. Sixty-one percent of farmers believe this reduces local market availability, driving up prices, a view supported by 76 percent of customers. Dempewolf *et al*. (2012) [28] observed that staple foods like taro and breadfruit remain widely accessible in Samoan markets. This observation aligns with 39 percent of farmers and 24 percent of customers, who contend that local price adjustments stem from broader economic pressures, such as rising production costs, labour, tools, and other expenses, rather than export strategies.

Seventy-seven percent of farmers and 81 percent of customers attribute price increases to genuine surges in demand for local garden produce, aligning with de Ridder *et al*.'s (2017) [12] observation of dietary shifts toward organic and locally-sourced foods. Farmers charge premium prices to

offset higher production costs linked to organic farming practices (Dempewolf *et al*., 2012) [28]. However, a minority of respondents - both farmers and customers argue that structural factors such as inflation, imported tool costs, and climate adaptation are the drivers of the elevated prices.

While the majority of farmers (73 percent) and customers (90 percent) share concerns about rising produce prices, their attributions diverge: farmers emphasize production-side challenges such as labour shortages, input costs, and natural disasters, whereas customers focus on market-side factors like inflation and e-commerce growth (Bilro *et al*., 2023) [5]. A minority of both groups, however, acknowledge the multifaceted causes of high living costs, noting that systemic pressures such as global conflicts and socioeconomic inequities are exacerbating price surges across goods and services (Webster and Neal, 2022) [56].

Seventy-eight percent of farmers attribute reduced agricultural activity to urbanization and the shift toward commercial sectors (Li, Shen, *et al*., 2019) [49], while 81 percent of customers recognize urbanization's role in diminishing local produce availability, linking reduced supply to higher prices. Key drivers include younger generations migrating to urban jobs, which shrinks the farming workforce, and farmland being repurposed for commercial or residential use, limiting production capacity. However, a minority of respondents, both farmers and customers, argue that global crises, such as the 2008 financial crash and the COVID-19 pandemic (Johnstone, Saridakis, *et al*., 2019) [27], exacerbate price surges more significantly than urbanization trends.

Eighty-three percent of farmers directly managing soil health attribute lower yields and price increases to nutrient-depleted soils (Bayata, 2024) [3], a view supported by 78 percent of customers. Farmers cite declining soil fertility and reduced organic matter, which necessitate costly fertilizers to sustain output, while climate change exacerbates erosion and moisture loss (Eekhout and de Vente, 2022), compounding production challenges. However, a minority of respondents - both farmers and customers attribute price hikes to broader economic and social factors like inflation and global conflicts, often lacking direct awareness of soil health's role in agricultural productivity (Ponge, Sofo, and Zanella, 2022) [50].

Eighty-nine percent of farmers express concern over the erosion of communal gardening practices, which historically ensured food security and cultural cohesion - a shift threatening agricultural knowledge and social bonds (Lal, 2012) [32]. Eighty-one percent of customers highlight the migration of workers to commercial sectors as a key driver of reduced agricultural labour, forcing farmers to scale down production and increase prices. A minority of respondents (farmers and customers) lament the loss of affordable, fresh local produce, attributing rising costs primarily to inflation and COVID-19 rather than labour migration to commercial sectors (Cox and Sulifoa, 2020) [51].

Summary

Customers overwhelmingly agreed that rising costs of imported vegetables (95 percent of customers), climate change (95 percent of customers), and labour costs (100 percent of customers) were the primary drivers of increased prices for local produce. In contrast, farmers emphasized COVID-19 (94 percent of farmers), climate change (94 percent of farmers), and the shift toward commercial activities (89 percent of farmers) as the most significant contributing factors.

Conclusion

The respondents from the survey identified global financial crises, wars, COVID-19, climate change, high inflation, and rising living costs as key external drivers, creating ripple effects on economic stability and prices. The interconnected nature of global trade and business ensures that such events inevitably impact local markets. Local factors, including population growth, high demand for produce, reduced domestic sales due to exports, volunteer labour payments, expensive imported foods, costly farming tools, and farmers' autonomy in pricing, further contributed to the local produce price spikes.

The 2018 Household Income and Expenditure Survey by the FAO and SBS revealed that Samoan families spent 35 percent of their income on food, a finding reaffirmed by the 2023 SBS survey, with spending remaining stable at 35 percent. Households face mounting financial pressure due to soaring living costs, expensive imports, and rising prices of essentials, exacerbated by stagnant wages and low minimum wages, particularly in-service sectors. Ongoing global challenges such as climate change, post-pandemic disruptions, trade instability, wars, and financial crises continue to inflate prices of goods and services, including local garden produce.

While government intervention, such as moderating wages to match living costs and regulating local produce prices, may seem critical to address economic pressures, these measures risk unintended harm: wage hikes can strain small businesses and reduce employment, while price controls may disincentivize farmers' production, ultimately hurting consumers. Therefore, effective policy must carefully calibrate salary adjustments to minimize business impact and establish price supports that balance farmer profitability with consumer affordability.

References

1. Anae M, Tominiko F, Fetui V, Lima I. Transnational Sāmoan chiefs: views of the fa'amatai (chiefly system). J Samoan Stud. 2017;7(1). Available from: https://journalofsamoanstudies.ws/
2. Ayob AH, Hussain WMHW. Buying local or imported goods? Profiling non-income consumers in developing countries. Int Rev Manag Mark. 2016;6(4):688-95. Available from: http://econjournals.com/index.php/irmm/article/download/2751/pdf
3. Bayata A. Soil degradation: contributing factors and extensive impacts on agricultural practices and ecological systems - systematic review. J Agric Environ Sci. 2024;13:16-34. doi:10.15640/ijhs.v13a2
4. Bieler A. Confronting multiple global crises: a political economy approach for the twenty-first century. Globalizations. 2025:1-18. doi:10.1080/14747731.2025.2453300
5. Bilro RG, Loureiro SMC, Souto P. A systematic review of customer behavior in business-to-business markets and agenda for future research. J Bus Ind Mark. 2023;38(13):122-42. doi:10.1108/JBIM-07-2022-0313
6. Braun JV, Tadesse G. Global food price volatility and spikes: an overview of costs, causes, and solutions. Bonn: The Centre for Development Research; 2012.

Available from: http://ssrn.com/abstract=1992470
7. Cardella E, Roomets A. Pay distribution preferences and productivity effects: an experiment. J Behav Exp Econ. 2022;92:101814. doi:10.1016/j.socec.2021.101814
8. Central Bank of Samoa. Foreign trade and international commodity prices report. Apia: The Government of Samoa; 2025. Available from: https://cbs.gov.ws/media/Foreign-Trade-Report-March-2025.pdf
9. Chakrabartty SN. Scoring and analysis of Likert scale: few approaches. J Knowl Manag Inf Technol. 2014;1(2):31-44.
10. Das D. Weathering changes: livelihood adaptation to weather shocks in rural India by disadvantaged social groups. Margin J Appl Econ Res. 2025;0(0):[page range not provided]. doi:10.1177/00252921241307879
11. Dasgupta S, Robinson EJZ. Attributing changes in food insecurity to a changing climate. Sci Rep. 2022;12:4709. doi:10.1038/s41598-022-08696-x
12. de Ridder D, Kroese F, Evers C, Adriaanse M, Gillebaart M. Healthy diet: health impact, prevalence, correlates, and interventions. Psychol Health. 2017;32(8):907-41. doi:10.1080/08870446.2017.1316849
13. Derick EC. A public policy review: evaluating RTL's effectiveness on lowering rice prices: a local perspective from the countryside of the Philippines. Int J Adv Eng Manag Res. 2023;8(6):[page range not provided]. doi:10.51505/ijaemr.2023.8602
14. Diaz EM, Cunado J, de Gracia FP. Global drivers of inflation: the role of supply chain disruptions and commodity price shocks. Econ Model. 2024;140:106860. doi:10.1016/j.econmod.2024.106860
15. Dorward A. Agricultural labour productivity, food prices and sustainable development impacts and indicators. Food Policy. 2013;39:40-50. doi:10.1016/j.foodpol.2012.12.003
16. Fukase E, Martin W. Economic growth, convergence, and world food demand and supply. World Dev. 2020;132:104954. doi:10.1016/j.worlddev.2020.104954
17. Govereh J, Jayne TS. Cash cropping and food crop productivity: synergies or trade-offs? Agric Econ. 2003;28(1):39-50. doi:10.1111/j.1574-0862.2003.tb00133.x
18. Grossman GM, Helpman E, Redding SJ. When tariffs disrupt global supply chains. Am Econ Rev. 2024;114(4):988-1029. doi:10.1257/aer.20211519
19. Han Q. Understanding price momentum, market fluctuations, and crashes: insights from the extended Samuelson model. Financ Innov. 2025;11:56. doi:10.1186/s40854-024-00743-y
20. Hardin J, Kwauk CT. Producing markets, producing people: local food, financial prosperity and health in Samoa. Food Cult Soc. 2015;18(3):519-39. doi:10.1080/15528014.2015.1043113
21. Healy J. Their homes are intact, but the fire damage inside is unbearable. The New York Times. 2025 Jan 20 [cited 2025 Oct 4]. Available from: https://www.nytimes.com/2025/01/20/us/los-angeles-fires-smoke-ash-damage.html
22. Ho GWK. Examining perceptions and attitudes: a review of Likert-type scales versus Q-methodology. West J Nurs Res. 2016;39(5):674-89. doi:10.1177/0193945916661302
23. Hogendorn JS, Gemery HA. Cash cropping, currency acquisition and seigniorage in West Africa from 1923-1950. Afr Econ Hist. 1982;(11):15-27. doi:10.2307/3601215
24. Hokayem E. The Gaza war and the region. Glob Polit Strategy. 2023;65(6):57-66. doi:10.1080/00396338.2023.2285603
25. Ioane J, Tudor K. The fa'asamoa, person-centered theory and cross-cultural practice. Pers-Cent Exp Psychother. 2017;16(4):287-302. doi:10.1080/14779757.2017.1361467
26. Jegasothy K, Duval Y. Food demand in urban and rural Samoa. Pac Econ Bull. 2003;18(2):[page range not provided].
27. Johnstone S, Saridakis G, Wilkinson A. The global financial crisis, work and employment: ten years on. Econ Ind Democracy. 2019;40(3):455-68. doi:10.1177/0143831X19866532
28. Jones AMP, Dempewolf H, Armstrong R, Gallucci K, Tavana NG. Staple food choices in Samoa: do changing dietary trends reflect local food preferences? Ethnobot Res Appl. 2011;9:455-62. doi:10.17348/era.9.0.455-462
29. Joshi A, Kale S, Chandel S, Pal DK. Likert scale: explored and explained. Br J Appl Sci Technol. 2015;7(4):396-403. doi:10.9734/BJAST/2015/14975
30. Kang S, Jung H, Kwon S, Jang Y, Woo S, Ha Y. Promoting the economic sustainability of small-scale farmers through versatile machinery in the Republic of Korea. Sustainability. 2024;16(22):10022. doi:10.3390/su162210022
31. Khanna SK. Global perspectives on food insecurity, nutritional knowledge, and community health and well-being. Ecol Food Nutr. 2021;60(2):137-9. doi:10.1080/03670244.2021.1913025
32. Lal R. Climate change and soil degradation mitigation by sustainable management of soils and other natural resources. Agric Res. 2012;1:199-212. doi:10.1007/s40003-012-0031-9
33. Latai A, Binns JA, Nel E. Climate change and community resilience in Samoa. Singapore J Trop Geogr. 2019;41(3):[page range not provided]. doi:10.1111/sjtg.12299
34. Lewis M, Herron L, Chatfield MD, Tan RC, Dale A, Nash S, *et al*. Healthy food prices increased more than the prices of unhealthy options during the COVID-19 pandemic and concurrent challenges to the food system. Int J Environ Res Public Health. 2023;20(4):3146. doi:10.3390/ijerph20043146
35. Lock I, Wonneberger A, Steenbeek P. Divergent views and common values: comparing sustainability understandings across news media, businesses, and consumers. Environ Commun. 2024;18(7):891-911. doi:10.1080/17524032.2024.2327063
36. Manisankar G, Vaishnavi P. Labour scarcity in agriculture: a review. Pharma Innov J. 2022;SP-11(4):2087-90.
37. McKibbin W, Fernando R. The global economic impacts of the COVID-19 pandemic. Econ Model. 2023;129:106551. doi:10.1016/j.econmod.2023.106551
38. Mrabet Z, Alsamara M, Mimouni K, Awwad A. Do supply chain pressures affect consumer prices in major economies? New evidence from time-varying causality analysis. Econ Model. 2025;142:106914. doi:10.1016/j.econmod.2024.106914
39. Ng MA, Naranjo A, Schlotzhauer AE, Shoss MK,

Kartvelishvili N, Bartek M, *et al*. Has the COVID-19 pandemic accelerated the future of work or changed its course? Implications for research and practice. Int J Environ Res Public Health. 2021;18(19):10199. doi:10.3390/ijerph181910199
40. Peterson EWF. The role of population in economic growth. Sage Open. 2017;7(4). doi:10.1177/2158244017736094
41. Pradana DB, IhsanD MS, Munichputranto F. Political economy of artificial intelligence: critical reflections on big data market, economic development and data society. J Econ Issues. 2025;59(1):331-4. doi:10.1080/00213624.2025.2455313
42. Rai A. The effect of income of farmers and farm laborers on agricultural economic growth. J Ekon Pembangunan. 2021;19(2):70-80. doi:10.22219/jep.v19i02.18328
43. Raine J. Ukraine vs Gaza. Survival. 2024;66(1):173-80. doi:10.1080/00396338.2024.2309086
44. Reddy KS, Nangia VK, Agrawal R. The 2007–2008 global financial crisis, and cross-border mergers and acquisitions: a 26-nation exploratory study. Glob J Emerg Mark Econ. 2014;6(3):257-81. doi:10.1177/0974910114540720
45. Samoa Bureau of Statistics. GDP expenditure: annual analysis. Apia: The Government of Samoa; 2024. Available from: https://www.sbs.gov.ws/documents/Finance/GDP/2024/GDP-Production_Report-Dec_2024_Quarter_Final.pdf
46. Schroeder SK. The impacts of climate change on industries and financial fragility. J Econ Issues. 2024;56(3):1057-65. doi:10.1080/00213624.2024.2382055
47. Seddighi H. Trust in humanitarian aid from the earthquake in 2017 to COVID-19 in Iran: a policy analysis. Disaster Med Public Health Prep. 2020;14(5):7-10. doi:10.1017/dmp.2020.54
48. Seiden A, Hawley N, Schulz D, Raifman R, McGarvey ST. Long-term trends in food availability, food prices, and obesity in Samoa. Am J Hum Biol. 2012;24(3):286-95. doi:10.1002/ajhb.22237
49. Shen X, Li Y, Sun Y, Chen Z, Wang F. Understanding the role of technology attractiveness in promoting social commerce engagement: moderating effect of personal interest. Inf Manag. 2019;56(2):294-305. doi:10.1016/j.im.2018.09.006
50. Sofo A, Zanella A, Ponge J. Soil quality and fertility in sustainable agriculture, with a contribution to the biological classification of agricultural soils. Soil Use Manag. 2022;38(2):1085-112. doi:10.1111/sum.12702
51. Sulifoa SRO, Cox LJ. Introduced conservation agriculture programs in Samoa: the role of participatory action research. In: Nared J, Bole D, editors. The urban book series. Cham: Springer; 2020. p. [page range not provided]. doi:10.1007/978-3-030-28014-7_9
52. Thakor AV. The financial crisis of 2007–2009: why did it happen and what did we learn? Rev Corp Finance Stud. 2015;4(2):155-205. doi:10.1093/rcfs/cfv001
53. Troubat N, Faaola E, Aliyeva R. Food security and food consumption in Samoa – based on the analysis of the 2018 household income and expenditure survey. Apia: FAO and SBS; 2020. doi:10.4060/cb0613en
54. Tu Y, Li D, Wang H. COVID-19-induced layoff, survivors' COVID-19-related stress and performance in hospitality industry: the moderating role of social support. Int J Hosp Manag. 2021;95:102912. doi:10.1016/j.ijhm.2021.102912
55. United Nations Development Programme. Global cost-of-living crisis catalyzed by war in Ukraine sending tens of millions into poverty, warns UN Development Programme [Internet]. 2022 [cited 2025 Oct 4]. Available from: https://www.undp.org/press-releases/global-cost-living-crisis-catalyzed-war-ukraine-sending-tens-millions-poverty-warns-un-development-programme
56. Webster P, Neal K. The cost of living crisis. J Public Health. 2022;44(3):475-6. doi:10.1093/pubmed/fdac080
57. Wolbers J, Kuipers S, Boin A. A systematic review of 20 years of crisis and disaster research: trends and progress. Risk Hazards Crisis Public Policy. 2021;12(4):[page range not provided]. doi:10.1002/rhc3.12244
58. World Bank. Global economic prospects, June 2025. Washington, DC: World Bank Group; 2025. Available from: http://documents.worldbank.org/curated/en/099108406102514189