

Strategic Analysis Paper

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Food and Water Security in New Caledonia

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Key Points

- New Caledonia is wealthier than many other small island economies, but that wealth is unevenly distributed.
- Uneven wealth and high food prices make it harder for some groups to receive adequate nutrition, especially in rural areas and among Polynesians and Melanesians – these groups are also more prone to obesity.
- Agriculture's contribution to the economy has fallen over the last two decades, largely due to decreasing agricultural land and more attractive jobs in other industries.
- New Caledonia mostly relies on surface water resources, making it vulnerable to scarcity during dry periods. These sources are also vulnerable to contamination and there are high levels of heavy metals in the water.

Summary

Thanks to a large nickel industry and French economic support, New Caledonia enjoys higher levels of wealth and food security than many other small island economies. Despite a generally good economic outlook, wealth is poorly distributed. That leaves the rural Melanesian and Polynesian members of New Caledonian society especially vulnerable to poverty, which is exacerbated by high food prices. With less purchasing power, these groups are prone to poorer nutritional outcomes and are more likely to be overweight or obese and have less diverse diets. For many, subsistence farming, fishing and hunting provides a more reliable source of nutrition than expensive shop- or market-bought products. Agriculture

plays an increasingly small part in New Caledonia's economy, driven by a reduction in agricultural land and by the lure of more appealing jobs outside of the agriculture industry. Water security also faces difficulties. New Caledonia generally receives enough water for its needs, but it lacks diversified sources of water, making it vulnerable to shortages during dry years. It also lacks the capacity to adequately purify most of its water, making it prone to high levels of heavy metals and occasional bacterial contamination. As a relatively wealthy Pacific Island, New Caledonia can do more to make a greater part of its population food and water secure.

Analysis

New Caledonia is a French territory in the South Pacific, which enjoys a [high degree of autonomy](#) from metropolitan (mainland) France. New Caledonia is located in southern Melanesia and is comprised of a number of islands, the largest of which is [Grande Terre](#). These Islands are split [into three provinces](#): the South Province, the North Province and the Loyalty Islands, which are each governed by a provincial assembly. New Caledonia enjoys a level of economic prosperity that is significantly higher than other French overseas territories and other Pacific islands. Nominal GDP (GDP before adjusting for inflation) in New Caledonia is comparable to that of New Zealand. Much of New Caledonia's prosperity is derived from its nickel mining industry and from transfer payments from mainland France. [Levels of hunger are low](#) and undernourishment is minimal, though rates of poverty are high in some communities, especially among rural and tribal groups.

Economy

The New Caledonian economy was marked by rapid growth between [1960 and 2010](#), leaving average incomes in the country roughly as high as those in France. Incomes are high on average, but this masks significant levels of income inequality, particularly between regions. Most of the country's [wealth and spending is concentrated](#) in the South Province, where the capital Nouméa is located. In the South Province, only around 20 per cent of households spend less than 150,000 *Change Franc Pacifique* (CFP Francs) (\$2,000) each month, compared to 60 per cent of households in the North Province and 75 per cent of Loyalty Islands households, where poverty tends to be concentrated. According to the most recent figures, [17 per cent](#) of New Caledonian households lived below the relatively poverty line of around 72,000 CFP Francs (\$990) a month. Of those households, only nine per cent reside in the South Province, while 35 and 52 per cent of impoverished New Caledonians reside in the North Province and Loyalty Islands, respectively. Income inequality is also twice as high as that of metropolitan France.

In addition to large pockets of poverty, a lack of competitiveness in New Caledonian markets has increased the price of consumer goods. The territory faces most of the same [market constraints](#) as other small island economies, including isolation, remoteness and a small domestic market. New Caledonia also maintains protectionist measures that are designed to protect local industries from international competition (economic openness is relatively low even compared to other small island economies – below 30 per cent – compared to an

average of around 40 per cent). While this largely insulates New Caledonia from price shocks, it has led to the high prices and less consumer choice. Consumer prices are around [a third higher](#) in New Caledonia than they are in France, food prices can be two or three times higher and food inflation has also risen faster than in metropolitan France.

High food prices pose a particular problem for those below the poverty line. Those above the poverty line spend only a quarter of their incomes on food. In contrast, impoverished households spend [half of their incomes](#) on food. Poor households are also less able to afford a diverse diet and largely purchase staple foods, such as bread and rice, at the expense of meat, most dairy, fruits and vegetables. To mitigate a lack of dietary diversity, many low-income households produce their own food, particularly fish, meat (especially deer), vegetables (especially tubers) and fruit.

Nutrition

As in other Pacific Island states, over-nutrition is a greater concern in New Caledonia than under-nutrition. According to the [Rapport d'activité 2017 \(Activity Report 2017\)](#), only 1.4% of adults are classed as underweight, while 29.6% are overweight and 37.7% are obese. Obesity is also influenced by community factors, with Polynesians most likely to be obese (60 per cent), followed by Melanesians (40 per cent), while Europeans are least likely to be obese (23 per cent). In total, Polynesians are 8.4 times more likely to be overweight or obese than Europeans.

Although there is little information available about the quality of micronutrient consumption, dietary trends provide some information about the overall adequacy of nutrition in New Caledonia. Pasta and white rice are widely consumed among all groups, [with 63 per cent](#) of respondents consuming them every day. Daily pasta and rice consumption is correlated with greater obesity risk. There is also an ethnic component to daily consumption of these starches: only 26 per cent of Europeans eat pasta and rice daily, compared to 75 per cent of Melanesians and 79 per cent of Polynesians, which may account for some of the difference in obesity rates between these populations. Vegetable consumption follows similar ethnic and regional patterns. Although 43 per cent of New Caledonians report eating fresh vegetables every day, only 27 per cent of Polynesians report doing so, compared to 40 per cent of Melanesians and 58 per cent of Europeans. Consumption of vegetables also varies between provinces: 47 per cent of those living in the South Province eat a daily portion of vegetables, while only 30 per cent of those in the North Province and 38 per cent of those in the Loyalty Islands did so. In contrast, consumption of fruit is [more common outside of the South Province](#). In the Loyalty Islands, 44 per cent of people report eating fruit daily, while only 13 per cent report never eating fruit or eating it less than once a week. In the South Province, 24 per cent never consume fruit or eat it less than once a week.

High rates of obesity and poor diets have led to a number of public health problems. Diabetes poses a particular problem and is now the [primary cause of chronic illness](#) in New Caledonia. As of 2017, five per cent of New Caledonians were receiving treatment for diabetes, 62 per cent of whom suffer from complications from the condition. The number of diabetics is expected to rise significantly in the next 20 years, largely driven by increasing

rates of overweight and obesity. Several of the most common causes of mortality are also [influenced by dietary factors](#), including cancer and cardiovascular illness.

Agriculture, Fisheries and Aquaculture

The contribution of agriculture to the New Caledonian economy has [steadily declined](#) over the last two decades and is dwarfed by the nickel industry. Agriculture and the agri-food industry now contribute 1.5% of GDP, which has fallen from 2.2% in 1998. Despite this decrease, commercial agricultural production [increased by 47 per cent](#) between 2005 and 2015. Fruits and vegetables represent 35 per cent of agricultural value, while beef and pork make up 17 and 12 per cent, respectively. Fruit production is dominated by oranges, bananas and watermelon, while vegetables grown include onions, tubers, squash and potatoes. Three-quarters of agricultural enterprises are in the South Province and 20 per cent are in the North Province. Primary sector enterprises in New Caledonia are small and, according to a 2016 survey, [94 per cent](#) do not employ any workers.

The agricultural sector faces a number of structural constraints that limit its productivity. As of the most recent survey, there were [182,000 hectares](#) of agricultural land in use, of which 95 per cent was pasture, mostly used for grazing cattle. Over the last decade, however, the amount of agricultural land under utilisation has fallen by more than a quarter, a trend that has mostly affected pasturage. Reduced land use has also been accompanied by a reduction in agricultural enterprises, with over 1,000 either closed or absorbed by other enterprises in the same period. The loss of agricultural land is particularly marked in areas where new metallurgy plants have been established, which themselves absorb much of the local workforce. Factory and mining jobs have been especially attractive [to young people](#), causing a rural exodus that has been [especially marked](#) in the Loyalty Islands, where subsistence agriculture is key to nutritional diversity.

Water

New Caledonia receives an average [of 1,850 millimetres](#) of rain each year, much of which is concentrated around the south, the east coast and the Loyalty Islands, while the west and north receive significantly less. As a result of this unequal distribution, New Caledonia is vulnerable to both [drought and floods](#). Due to its relatively low population density of about [15 people per square kilometre](#), there is relatively little pressure on water resources, although pressures are increasing. Water use is also poorly understood, as water usage is frequently left unmeasured.

Most of New Caledonia's water supply comes from surface water resources, which are estimated to provide around [90 per cent](#) of New Caledonia's drinking water. Though exploiting surface water is cheaper than other methods and water quality in rivers is generally good, surface water is vulnerable to bacterial and chemical pollution, as well as drought - many bodies of water dry out completely after 90 days without rain. This created issues in 2017, when poor rainfall caused [widespread drought](#), especially in the Loyalty Islands and the north. To avoid further pressure on water supplies during dry years, it would benefit New Caledonia to investigate methods to sustainably exploit its groundwater resources. While aquifers are generally less sensitive to pollution and drought, little study

has been conducted into the viability of New Caledonia's groundwater. Meanwhile, there are no surface water resources in the Loyalty Islands. Instead, its inhabitants [rely on water lenses](#), a type of shallow aquifer that floats on top of [denser seawater](#). These water lenses are highly vulnerable to pollution and salinity, especially when over-extracted.

New Caledonia's water contains high levels [of certain heavy metals](#): alarmingly, it contains ten times more lead and five times more arsenic than either metropolitan France or World Health Organization limits. Microbial contamination is generally less widespread, but a 2016 [analysis of water](#) used for bathing and swimming found seven samples contaminated with *Escherichia Coli*, one contaminated with *Legionella*, and six contaminated with *Pseudomonas aeruginosa* (all are bacteria or fungi that can cause illness in humans). Despite the risk of chemical or bacterial contamination, [30 per cent](#) of water distributors do not have the means to adequately treat the water they provide. Additionally, while most urban residents have access to potable water, many rural residents do not, with many drinking directly from rivers.

Though New Caledonia's food and water security is better than that of many of its Pacific neighbours, there are still gaps to be addressed. Poverty is high among rural and non-European groups, which contributes to poorer nutritional outcomes. Rural New Caledonians are also subject to poorer water quality and are less likely to have an adequate source of drinking water than rural residents. By investing in the rural economy, sustainable groundwater exploitation and rural sanitation, New Caledonia could better serve the interests of a larger portion of its population.

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