

Twenty myths about Papua New Guinea agriculture

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A myth is a popularly held belief that has no basis in fact. A great deal of misinformation exists about agriculture in PNG. Some of it is repeated often in official reports, newspaper articles, letters to newspapers and in public statements by prominent people and thus becomes a myth. One of the aims of this book is to present facts about PNG agriculture, with the supporting evidence, so that those who debate policy and make recommendations for change can base their arguments on established truths, instead of myth.

Myth No. 1 Food production is not keeping pace with population growth.

In almost all places in PNG, villagers have increased production as population has grown so that the food supply has been maintained. The rate of increase of locally grown foods has varied over time. For example, in the period 1998 to 2005, production of staple foods for subsistence and sale increased faster than population growth and imports of rice and wheat per person declined (Section 2.7). In a limited number of locations locally produced food has not kept pace with population growth and people are either short of food or sell other produce to buy food (see Box 5.3).

Myth No. 2 PNG is a food-deficit country.

This myth is based on an FAO definition that labels a country as 'food-deficit' if imports of grain exceed exports of grain. PNG does not export grain. However, an estimated 83% of food energy and 76% of protein consumed in PNG comes from locally

grown foods (Figure 2.1.1). PNG exports other foods including palm oil, copra oil, coffee, cocoa and tea. The FAO definition is not questioned in PNG but is repeated inside PNG and at international conferences, possibly in order to try to attract aid funding.

Myth No. 3 Papua New Guineans live mainly on imported rice.

This myth is believed by many urban people for whom imported rice is their most important food. But it is not true for most people. Imported rice provides an estimated 9% of food energy in PNG (and wheat-based foods a further 5%) (Figure 2.1.2). Locally grown staples provide an estimated 68% of food energy, with sweet potato by far the most important of those crops (Figure 2.2.2). Papua New Guineans consume about 30 kg of imported rice per person per year. This can be compared with their annual consumption of over 500 kg of root crops, banana and sago.

Myth No. 4 Imports of rice are increasing rapidly.

This myth derives from the 1960s and 1970s, when rice and wheat imports were increasing every year and projections of the 1970s trend caused alarm. But per person consumption of rice slowed greatly in the 1980s and actually fell from 34 kg/person/year in the mid 1990s to 27 kg/person/year in 2001–2005. The consumption rate has increased slightly from 2006 as the economy has recovered and rural people have more money to spend on 'luxury' foods.

Myth No. 5 The Australian Administration did not promote rice production in PNG and Australians are attempting to stop local production to protect the Australian rice industry.

From the 1950s to the 1970s the Australian Administration invested significantly in attempts to produce rice, with very limited success (Section 2.5). Increased production of rice, based on the idea that rice imports should be replaced by locally grown rice, has been promoted by many individuals and organisations from the 1950s to the present. Despite considerable effort and financial investment, very little rice is grown in PNG, with annual production a minute fraction of the production of root crops, banana and sago (Table 2.2.1) and a tiny proportion of the amount of imported rice. Rice has not been widely adopted as a cash or subsistence crop in PNG for a number of reasons. The most important is that growing rice for sale results in poor returns to labour relative to other possible activities, such as growing coffee, cocoa or sweet potato (Table 5.20.1). As long as these conditions prevail, there is little potential for expanded rice production.

Myth No. 6 During the 1997–98 food shortages, Australia saved many Papua New Guineans from starving to death, with an emergency famine relief program.

In 1997–98 a countrywide drought and repeated frosts in the highlands completely disrupted some food production systems and severely reduced others (Section 1.6). In 1997, rice imports increased by 66 000 tonnes or about 40% more than the previous year. Most of the additional rice (75%) was sold through retail outlets. This rice was purchased by rural villagers and their urban-based relatives with cash earned from wages, from savings, or from selling export cash crops, fresh food and pork meat. The remainder was purchased by the PNG Government (8%), the Australian Government (4%), and other donors. Rice and other food was delivered by the Australian Defence Force to people in remote areas. If this had not been done, many of these people would probably have died. But the majority of rural Papua New Guineans and their urban-based *wantoks* saved themselves.

Myth No. 7 Imported meat, particularly lamb flaps from Australia and New Zealand, is increasing rapidly in volume.

Consumption of imported meat increased in PNG until 1994. From 1994 the quantity of imported meat eaten per person has fallen by almost two-thirds (Figure 2.9.1). When the kina fell in value relative to other currencies, imported foods became more expensive in PNG and people chose to reduce the amount of meat eaten. Consumption of imported mackerel fish has also decreased (Figure 2.10.1). This has been replaced to some degree by increased consumption of tuna, which is caught in PNG waters and canned onshore.

Myth No. 8 Lamb flaps are an unhealthy food.

Lamb flaps have a high fat content. Consumption of too much animal fat, including lamb flaps, is not good for people's health. However, many rural people eat very little animal fat (and vegetable oil) and consumption of a small amount of fatty food, such as lamb flaps, from time-to-time, is good for people's health. Furthermore, most rural people do hard physical work every day and so use the fat from lamb flaps as energy. Most rural diets are also very low in protein and lamb flaps provide protein. Most urban people, on the other hand, do little physical exercise. They would be healthier if they ate less fatty foods, including lamb flaps. So the idea that consumption of lamb flaps is unhealthy is basically true for most urban people, but is not true for most rural villagers who live an active lifestyle.

Myth No. 9 PNG agriculture has not changed for thousands of years. The practices and crops that are used today are traditional and unchanging.

Agriculture in PNG has a long and diverse history that is characterised by a high degree of innovation and openness to change on the part of Papua New Guineans. New crops have been adopted and old ones discarded or their importance has been reduced (Figures 3.1.2, 5.2.3). As well, many new techniques have been adopted or invented, such as composting, planting tree in fallows and crop rotations, particularly as people have intensified land use in response to population increase (Sections 3.6, 3.7). The introduction of sweet potato into the highlands about 300 years ago resulted in many changes in

production techniques and in highland societies. The rate of change has increased in the past 140 years (see History of agriculture).

Myth No. 10 PNG has an abundance of high-quality land for agriculture and any tropical crop will grow well anywhere in PNG.

Only a quarter of the PNG landmass is used for agriculture (Table 1.2.1). The rest of the landmass is unsuitable for agricultural production because it is too steep, too high in altitude (too cold), rainfall is very high, or the land is flooded every year (Sections 1.5, 1.7, 1.9, 1.11). About 63% of the land used for agriculture in PNG is on mountains and hills (Section 1.10). Only 7% of the land area is classed as high or very high quality for agricultural production, with a further 20% of moderate quality (Section 1.12).

Myth No. 11 With the exception of oil palm, production of export cash crops is static (sometimes expressed as: production is the same now as it was in 1975 at Independence).

Production of most export cash crops, except copra, has increased over the past 30 years (Table 5.2.2). Production *by plantations* of coffee, cocoa, copra, rubber and tea has declined and this has reduced the overall growth rate. However, production of most export cash crops *by villagers* has increased (Table 5.2.1). From 2002 to 2007 the renewable resources sector (agriculture, forestry and fisheries) grew at 2.9% per year, which is a little faster than the population growth rate.

Myth No. 12 Women do most of the work in producing food in PNG.

Agricultural work is 'gendered' in PNG, that is, there are tasks which are mostly done by women and those which are mostly done by men. But both women and men contribute labour to food and cash crop production, usually as husband and wife. As well, some men do tasks that are considered mainly women's work and vice versa (Section 6.2). Many more women than men sell fresh food in markets, while more men than women sell export cash crops. For this reason men tend to earn more money from agriculture than women.

Myth No. 13 Villagers have a lot of spare time and it does not matter to them how much labour is needed to produce a certain crop.

One of the most important determinants of whether people will adopt a new crop or practice is the amount of food or money that they get in return for the amount of work they have to do to produce the crop. This applies to both cash crops and subsistence crops (Section 5.20).

Myth No. 14 Agricultural production is seriously constrained by customary land tenure arrangements.

Virtually all food crops, betel nut, vanilla and most coffee, cocoa, copra and rubber in PNG is grown on customary land. It is difficult but not impossible to access large areas of land for plantations. Since the mid 1990s, all increases in agricultural production for both smallholders and plantations have been on customary land. Internal migration is significant and many people can access land for agriculture where they settle (see Section 1.4). People are moving from poor agricultural environments to better ones, where the population density is greater (Figure 1.12.4). Many settlement schemes, where settlers have registered title to their land, have been economically unsuccessful (Section 6.7). Similarly, plantation production of all export cash crops, except oil palm, has declined for the past 30 years (Table 5.2.1). There are a number of reasons for this, but having a registered land title did not solve the problems of the plantation sector.

Myth No. 15 There are few roads in PNG and this reduces agricultural production.

More than half of the total population live within 5 km of a national road and a further 10% live within 10 km of a national road. Considerably more also live near a provincial or district road (Section 6.9). When roads were built in PNG, they usually went through the most densely populated places. This myth is fuelled by the fact that Port Moresby is not connected by road to any province, other than Central and Gulf. Unfortunately it is now true that many rural roads and bridges have not been properly maintained and many are impassable in wet weather. This is a significant limitation on agricultural production.

Myth No. 16 There is little information about PNG agriculture with which to develop sound policy, or for planning.

A large amount of information exists on the environment and agriculture in PNG, significantly more than for most other developing countries. The purpose of this book is to bring much of that information together in one place and to indicate where more can be found. Much more remains to be learned, and there are gaps in the knowledge of important topics, such as how many hours of labour are needed to grow particular crops, or which crops are best suited for PNG's different environments. But much is already known about PNG agriculture. (Also see Sources of information about PNG agriculture, page xxv.)

Myth No. 17 There is significant potential to export fresh food to New Zealand, Australia and South-East Asia.

There is very little potential to export fresh food from PNG because of quarantine issues (including a serious fruit fly problem), poor presentation of food, expensive and unreliable air and sea transport and lack of price competitiveness (Section 5.3). Limited possibilities for certain niche markets exist, but many obstacles remain. In contrast, there is significant unrealised potential for expanded sale of fresh food within PNG. Certain indigenous edible nuts, such as *galip*, *karuka* and *okari*, have considerable potential as export crops.

Myth No. 18 Global climate change is now causing significant problems for many people on very small islands.

Sea level rise, temperature increases, higher rainfall and possibly a greater incidence of extreme climatic events have the potential to cause significant problems for people in many locations in PNG, including those living on very small islands (Section 1.8). Some crops are now bearing at higher altitudes in the highlands because of higher temperatures. But overall the impact of climate change has been relatively small so far. Some problems attributed to rising sea levels are caused by overpopulation (Carteret Islands in Bougainville Province) or sinking land associated with geological activity (Duke of York Islands in East New Britain Province).

Myth No. 19 There is no poverty in rural PNG because there is plenty of food to eat.

There is significant poverty in rural PNG where one million people live in severe poverty (Section 6.10). In PNG poverty is heavily influenced by where people live. 'Poor places' are overwhelmingly rural (94% of poor people live in rural areas). In these locations, carbohydrate food is generally sufficient, but protein, fats and oils are not. Cash incomes are very low so people cannot buy foods that could increase protein in their diets. Health and education services are poor. As a result, life expectancy is short; many infants die before they are one year old; and all measures of health, education and life outcomes are among the worst in the Asia-Pacific region.

Myth No. 20 Poor governance of agricultural institutions does not matter because rural people grow their own food and look after themselves.

A number of the bodies that govern the production, purchasing, processing and marketing of PNG's cash crops have seriously disadvantaged producers by interference in their management by politicians, the appointment of people who do not have the skills to be effective managers and by some very bad policy making (Section 6.4). The best outcomes for PNG producers have occurred when government has stayed out of marketing and exporting, and has regulated in favour of village producers. An example of poor governance affecting marketing is the collapse of chilli exports in 1982, despite a large increase in prices. This was caused by marketing problems with provincial government buying systems (Figure 5.15.1). An example of how good governance has a positive influence on exports is the increase in exports of tuna and increased revenue to PNG in the late 1990s, following the establishment of the National Fisheries Authority and that body's proper regulation of PNG fisheries (Figure 5.9.2).