

Papua New Guinea's strategic plan for agriculture

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Papua New Guinea agriculture has been languishing for many years with the exception of oil palm and some food crops. In March 2007 the Government released the National Agriculture Development Plan 2007–2016 (NADP). This plan was supposed to have evolved through exhaustive consultation with all people involved in agriculture at every level (NADP 2007:2). Unfortunately it did not. Several possible contributors had requested draft copies of the report in order to be able to comment during the year or so that it was being drafted.¹ Although recommendations from NARI's consultation in 2003 and the National Extension Summit of 2004 and the two day consultative meeting of August 2006 were all supposed to have been taken into account, the plan is disappointing in terms of laying a framework for agricultural development in Papua New Guinea. Before moving on it is well to define just what we mean by a strategic plan in order to be able to discuss the NADP. Strategic planning is not about predicting the future, reading crystal balls, or calling some psychic hotline. Strategic planning is asking the people whose actions will create the future what they want that future to be. Strategic planning answers the three big questions

- where are we today?
- where do we want to be in the future?
- what should we focus on today, in order to make it more likely we will be where we want to be in the future?²

Perhaps the most important aspect of any strategic plan is that it has to be realistic, it must set goals that are achievable and in order to do so it must identify the constraints to those goals and the way in which those constraints will be dealt with. The main weakness in the NADP is that it fails to identify those constraints and how they will be overcome.³ We have said that this requires a 'buy in' by those people who will have to make sure that the plan is implemented. In Papua New Guinea's case this means the politicians, political parties and the Government as a whole. The main weakness of the NADP is that it fails to allow for this fundamental requirement; it fails to provide a step by step road map and fails to provide incremental performance measurement criteria.

Papua New Guinea is full of plans and reports about how to proceed into the future, but most are generalist and non-specific. The NADP has at least set targets for export crops. However, there are some

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serious discrepancies in the data presented in Table 1. It is possible that the 'kina million' figure is intended to represent added value from new plantings and investment but the figures for increased production (in parentheses) are wrong according to their own figures and even further wrong using the *Quarterly Economic Bulletin* figures (see Table 2).

Agricultural production

Agricultural production in Papua New Guinea has been patchy, export crops apart from oil palm have barely grown and food crops in most areas have grown faster to enable them to keep up with population growth.

In 2000, staple crop production in Papua New Guinea was estimated at 4.5 million tonnes (1,050 kg per head), with an energy value of 2,770 kilocalories per person per day, and valued at about A\$1,400 million. This level of production would require additional rice imports of 1.2 million tonnes per year valued at K2850 million

to replace it (Bourke and Vlassak 2004: vi). Interestingly only 5 provinces do not produce sufficient energy to maintain their human populations, Western, Gulf, Central, East and West Sepik and East New Britain (Bourke and Vlassak 2004:25).

There is little doubt that, with minimal investment in key areas, production could be substantially expanded. However, this will require an understanding by government, starting with a recognition that agriculture is of major importance to the future of Papua New Guinea. The Ministry should not be the repository for the junior member of a coalition partner. As it stands the NADP is an extensive shopping list of many things that seem to be expected to be done at once and as such it does not provide a strategic plan for the future.

Constraints

The National Research Institute (NRI) carried out a survey of constraints to production for the rural informal sector

Table 1 Expected outcome from tree and industrial crops development

Crop	Increase in area ('000 hectares)	Employment generated	Production ('000 tonnes)	Exports ('000 tonnes)	Exports (kina million)	Increase in production
Oil palm	30–40	15,000	140	295.7	200	47 (20–30)
Coffee	2	14,000	20–30	66.9	100	30–45 (10–20)
Cocoa	25	15,000	20–30	37.0	80	54–81 (10–20)
Coconut	5	1,500	20–30	49.4	40	40–60 (10–20)
Rubber	10	15,000 families	15–20	4.0	40	300+ (30–50)
Other	5	20,000	8–10		20	30–50
Total					480	

Source: National Agriculture Development Plan Table 6.6:77.

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(Table 3), although this survey is not mentioned or cited in the NADP.

The main constraints as seen by the farmers themselves are transport, 'operations' (fees, materials, and so on), access to services, skills and law and order. Interestingly tribal fighting, which is generally blamed for much of the failure in the rural informal sector, amounted to only 0.2 per cent of the responses in this survey.

The category 'operations', which is seen as the major constraint, includes PMV fares, school fees, transport and fuel price increases, chemicals, home consumption and taxation.⁴ It seems that these constraints are too general for the NADP to address other than under the catch cry of macro-economic stability.

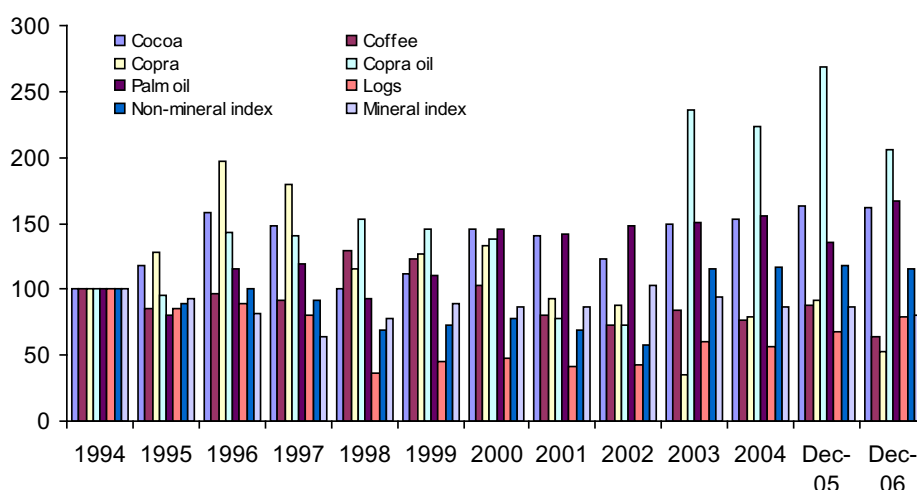
Poor transport is the key constraint to improving agricultural production in

Table 2 Comparison of NADP and Bank of Papua New Guinea statistics

Crop	Value (kina million)		Volume ('000 tonnes)	
	NADP	BPNG	NADP	BPNG
Oil palm	200	430.1	295.7	362.3
Coffee	100	337.0	66.9	52.3
Cocoa	40	204.0	37.0	44.0
Coconut	40	68.7	49.4	53.8
Rubber	40	23.8	4.0	4.4

Source: National Agriculture Development Plan and Bank of Papua New Guinea, 2007, *Quarterly Economic Bulletin*, March: Tables 8.5, 8.6.

Figure 1 Papua New Guinea: export volume index, 1994–2006 (1994=100)



Source: Bank of Papua New Guinea 2007. *Quarterly Economic Bulletin*, March, Bank of Papua New Guinea, Port Moresby.

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Papua New Guinea. There is no point in anyone producing goods for market if they are unable to get them to market. Roads are all in very bad condition and the only difference is the degree of disrepair. There is no sea and air transport available for almost all provinces apart from a few major ports and provincial airports as well as some that are still maintained by the missions.

Transport

Conventional economics argues strongly against subsidies for transport or any other services. Unfortunately Papua New Guinea listened to these arguments during the late 1970s and again after the provincial government reforms in 1997. This meant that the Government shipping fleet which used to provide regular services to small and isolated ports, patrol posts, islands and atolls was discontinued during the late 1970s and early 1980s. The responsibility was handed over to provincial governments

and the fleet gradually disappeared until now, there is no regular cargo shipping in most provinces. Milne Bay is one exception. The only method of sea transport available to agricultural producers is by canoe or banana boat, both too expensive for most types of passenger or cargo transport.

The most important point here is that conventional wisdom accepts the need for government to be involved in the provision of roads but not in other forms of transport. In Papua New Guinea it is not realistic to expect that there will be road links to isolated areas due to the high cost of construction and maintenance and therefore alternatives have to be found and if there is an argument for government to fund roads, equally there is an argument for other forms of transport. The challenge is to find the cheapest and most cost effective method of transport that will serve small isolated communities.

Similarly government air charters gradually disappeared after the 1997 provincial reforms, possibly because the

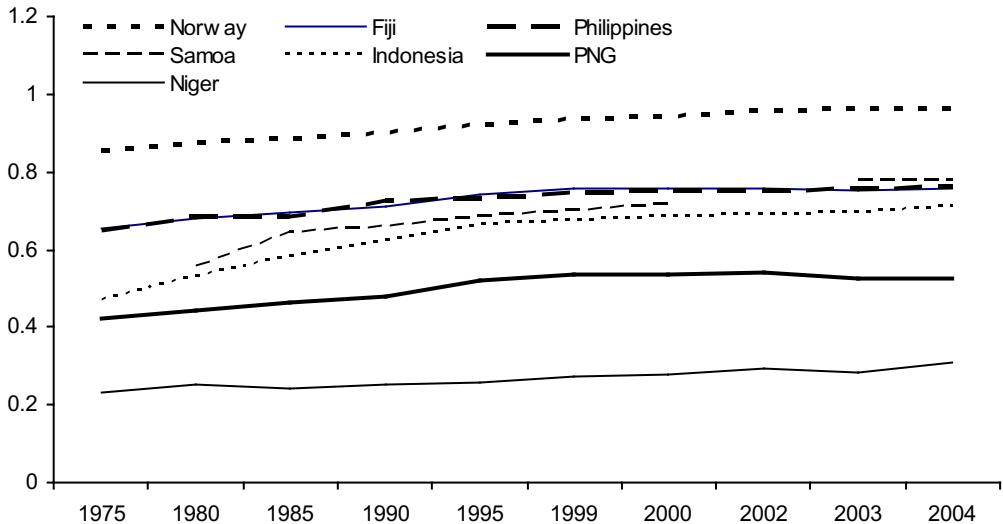
Table 3 Papua New Guinea: main problems affecting the rural informal sector, 2004

	Constraints (per cent of respondents)
Operational costs	19.1
Transport	12.0
Land restrictions	7.1
Law and order	7.5
Skills	7.5
Support services	7.1
Inadequate tools	5.5
Wantok credit	4.1
Seasonal differences	3.6
Existing environment	3.3
Product demand	3.5
Market infrastructure	2.6
Credit	2.4
Other	8.8

Source: National Research Institute, 2004. *Rural Informal Sector Report* (January), National Research Institute, Boroko: Table 16.

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Figure 2 Human development index trends, 1975–2004



Source: United Nations Development Programme; *Human Development Report 2006, Beyond Scarcity: power, poverty and the global water crisis*, United Nations Development Programme, New York.

national government no longer ran the Bureau of Management Services and cash offices as well as the fact that it was supposed to create capacity and responsibility of basic services at the local level government (LLG). This has resulted in estimates that between 30–50 per cent of the coffee crop do not make it to market. No copra or cocoa from outlying areas and therefore there are no goods and services getting into those areas.

Markets in Papua New Guinea are imperfect—they remain fragmented and isolated. Not only transport but also communications are almost non-existent and population centres are small and difficult to serve. In the short term the social cost of not providing those services is immense. With all the riches that Papua New Guinea has had since the beginning of the 1990s, development indicators have declined and Papua New Guinea lags behind the rest of the Pacific (Figure 2).

The NADP deals with the problems of transport in a perfunctory manner, suggesting that ‘the priority for the national transportation policy should be maintenance and upgrading of existing roads’ and ‘the NADP should identify important agricultural roads...to facilitate access for farm produce and funded under the NADP’ (NADP 2007:17–18). This has not been costed in the plan.

The problem is not an easy one to solve because of the split responsibility between national, provincial and local level government for the provision of roads and the unclear status of air and sea transport. Because it is a national problem, and because provinces and local level governments will never have available resources to provide this infrastructure, the national government has to take responsibility. For roads it will mean involving communities; where possible through use of funds hitherto allocated to or through MPs, possibly sweat

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equity and national government subsidies which are carefully worked out, monitored and prioritised according to cost-benefit analyses.

For sea and air transport there needs to be a plan which prioritises areas where there are larger concentrations of population and/or potential produce and the provision of charters on a regular basis. The existence of District Treasuries means that these will require regular transport links to ensure that they are working, fuel is available for generators, telecommunications are working and staff are at their posts. Provision of regular charters will ensure this. For shipping a few purpose built vessels that are capable of carrying passengers, government workers, MCH and health clinics, trade goods for sale and picking up return produce are needed. This is the way in which Burns Philp and the early traders built their businesses in the early days of coastal trading.

Subsidised charters should be provided by the private sector with strict and well policed performance indicators governing payment of subsidies and a schedule for the reduction of the level of subsidy as trade is rebuilt. Without a solution to the transport problems any other efforts to revive or expand agriculture are doomed to failure.

Skills

The NADP devotes a chapter to agricultural research, extension, information and training (NADP 2007:Ch4). Skills transfer or obtaining new skills has long been a problem in Papua New Guinea. Since the introduction of Provincial Government in 1997 the National Department of Agriculture and Livestock (under its various names) has been withdrawn from the provision of extension services which, under the 1997 reforms has become the responsibility of

local level governments. Failure to provide adequate accommodation and office space, funding and personnel has meant that this has meant that extension has declined to an almost non-existent level.

There are some exceptions. The Smallholder Support Services Pilot Project (2000–2006) in Eastern Highlands and Morobe has tried to involve private providers in extension and although it has had mixed results it is probably a better alternative than the resurrection of the government-run agricultural extension service. One of the real problems about this project is that there are no clear performance criteria for the impact of their extension services.

There have been attempts by Industry Boards to set up various extension agencies dating from the coffee rust scare through the Cocoa and Coconut Extension Agency to the present regime. The results from the coffee industry have been reported to be patchy but there has been little or no real expansion of the industry over the past ten years despite the setting of the goal to double production to the magic '2 million bags'. Cocoa and coconut extension has also lapsed and both industries are currently under threat—cocoa from theft and the cocoa pod borer, and coconuts from senility of trees, difficulties in finding copra cutters and transport problems.

One of the ways that the NADP hopes to improve production, transfer skills and improve quality is through the creation of (or revival of) nucleus estates. In Papua New Guinea today this is highly unlikely. In the Highlands most plantations have been overrun by surrounding landowners and those that still exist are continually under threat as well as the target of thieves. Almost all old coffee plantations have been overrun although there are some places where they have been revived and are providing services to adjoining farmers.⁵ In the coastal

provinces the old plantations have been abandoned and settled by landowners or squatters. This is illustrated by the fact that 88 per cent of all cocoa is now produced by smallholders (NADP 2007:67).

It is clear that smallholders are not reaching anything like the yield potential of the cash crops they produce. The national average coffee yield of 0.4–0.5 tonnes per hectare should be around 1 tonne per hectare (NADP 2007:72). Cocoa production at around 500 kg per hectare is far below the potential of around 2.5 tonnes per hectare. Coconut production is 0.2–0.4 tonnes per hectare. Young hybrids should produce at least 2 tonnes per hectare, but they are not suitable for some areas due to pest problems.

Research is spread through a number of industry-specific research institutions and, except for the coffee research institute, have suffered and will continue to suffer serious management problems as well as a decline in scientific output to farmers because of the lack of linkages between research and ordinary farmers. Management of these institutes is through Boards which are subject to other 'parent' Boards appointed by Ministers with little regard for skills being brought to the table.

The result is that the institutions have declined in both funding and scientific achievement. Papua New Guinea can no longer afford the luxury of many institutions and all agricultural research should be now brought together in full under NARI. The NARI Board should be expanded with an elected member from each major industry and each sector should have elected advisory committees from their own industry. They should be compelled to expose themselves to external review no more than biannually and the results of this review should be a determinant of future funding and employment tenure.

Research on its own will do no good. It needs to be applied to the major needs of

farmers as expressed through their advisory committees and regular cost of production surveys and there needs to be a way that this research is communicated to farmers. The NADP talks about this being done through the internet, resource centres and other high technology not yet available to urban, let alone in rural Papua New Guinea (NADP 2007:51). The problem of agricultural extension is tied up with the general lack of services at the local government level. It is unlikely that this will ever be revived within the government system and the only way forward appears to be through a combined strengthening of LLGs and provision of services by private persons and organisations.

With respect to training of technicians and scientists, as with extension staff and potential extension staff, the NADP is very sketchy, fragmented discussion (NADP 2007:34, 40 and 46) which is inconclusive on the subject of changes to school curricula, the role of Popondetta Agricultural College, Vudal University, Highlands Agricultural College and Vocational Education Centres. Resource management and training are budgeted to receive a total of K27 million over 10 years, considerably less than the budget for rice at K46 million over the same period. Most of that budget is for building repairs (K16.5 million) leaving very little for this vital area of capacity building within the industry (NADP 2007:132, 140). This is a major weakness which will severely restrict the ability to reach any of the other goals set by the Plan.

Law and order

The impact of law and order is many faceted and has been dealt with in many other papers and reports, nevertheless it is seen as a major impediment by the people who will eventually have to produce the agricultural

crops that Papua New Guinea needs on which to base sustainable agriculture. Law and order is often seen to be primarily a tribal fighting issue but as noted earlier this was not seen by respondents to be significant.

Law and order impacts on agricultural production in many ways. The most prevalent is straight-out theft of crops: in the field, produce being processed, produce being transported to market, from buying points and roadside buyers and at almost every stage of the production chain. This is getting worse and is partially a result of the population pressure, lack of opportunities, land and relevant skills, however it is also a result of lack of resources for police, and poor transport infrastructure which makes the production chain more vulnerable⁷.

The other effect is the closure of most village trade stores because they are sick of being held up and robbed. If there is nothing to buy in the village, there is not much incentive to produce cash crops. This also has an impact on the ability to pay for other services like education and health as well as taxes.

Law and order is high on the list of disincentives to large-scale agricultural production. One large company is switching from cocoa to cattle under coconuts, even though cocoa prices have been at historic highs in the last few years, because it is losing such a large amount of cocoa⁸. The closure of many of the larger coffee plantations has also been as a result of law and order, theft and encroachment, threatening of staff, proliferation of modern weaponry in the hands of criminals and so on.

Law and order is an escalating problem which is both a symptom and cause of problems in agriculture but it has to be tackled in a more systematic and consistent manner if it is to be reduced. It receives a very cursory treatment in the NADP (NADP 2007:19).

Land restrictions

Land is most often cited as a major constraint to agricultural production in Papua New Guinea. There has been an on-going debate about the ownership of land and whether there can be any real development without wholesale alienation of land. Politically and emotionally Papua New Guineans are not going to allow wholesale alienation of land in the foreseeable future⁹ so there is little point in continuing to advocate this type of reform.

Nevertheless land is becoming a constraint in a number of provinces and is seen as being so by the farmers interviewed. The first result is that rotations that used to be 15–20 years are being reduced, soil erosion is increasing¹⁰ at a rapid rate although there has not yet been a marked reduction in soil fertility¹¹ and as we have seen earlier production of food crops has grown to more or less keep pace with population growth. At least half the population are under 18 years of age and breeding continues apace, with continued almost exponential pressure on land. Land tenure and land generally receive less than a page in the NADP.

One of the solutions to land pressure is to use existing land more efficiently, to try different and better farming systems, for better training and knowledge of the dangers of over farming from erosion and soil degradation. The other is freeing up existing land that is held under customary title in a way that is seen to be fair and acceptable to both the landowner and the potential developer/user. Within villages there are people who do not own or have access to customary land and others who have more than they can productively use. There are already many places where landowners and tenants have come to agreement about some form of lease arrangement. This will evolve and can be hastened by the proposals to assist

landowners to voluntarily register their land to allow some form of commercial transaction to take place but which does not impinge on the ownership of the land.

Institutional reform

Papua New Guinea in general and the agricultural sector in particular is still living in the 1970s. It is still felt that government will somehow make things work and that government should be guiding the path of development. The obvious rejoinder of any observer is that the government has failed to encourage Papua New Guinea to develop and use its abundant natural resources. The NADP is full of new councils and advisory bodies to guide development.

The other alternative is to recognise that the role of government is to ensure that the investment climate is attractive, infrastructure is operational and farmers have access to market and market information, good planting materials and good advice based on sound research¹². This means that the Department of Agriculture and Livestock would become a small office providing policy advice and guidelines. Some of the other agencies with clear externalities like the National Agriculture Quarantine and Inspection Authority (NAQIA) need to be properly funded under some form of formula guaranteeing levels of Government funding. Research needs to be amalgamated as does the responsibility for training at all levels.

Where there is a case for regulation for reasons like quality, disease control, and encouragement of extension they should be controlled as far as possible by farmers themselves and political and ministerial influence should be removed. All components of the industry that use government or growers' money have to be subject to clear performance indicators

so those who are supposed to be the beneficiaries can judge whether they are getting value for their money.

Conclusion

The NADP is an attempt to chart the future of the largest employer and provider for some 87 per cent of Papua New Guineans. It is the first comprehensive plan the country has had but it is far from a strategic plan for the future. To be so, it requires full political backing and not the lip service that agriculture has received in Papua New Guinea over the last 30 years since independence. It requires acknowledgment that the constraints are mostly things that government can fix such as infrastructure, but to be able to do so will mean switching significant resources from lower priority areas to fund this essential support to the sector.

Notes

- ¹ The author and his successor at the Institute of National Affairs had both regularly requested drafts and were told variously 'that it wasn't ready', 'it had to be cleared by FAO' and 'we will get you a copy in the next few days'!
- ² 'The Business Development Knowledge Network: Strategic Plan Development Tool & SWOT Analysis Template'. Available from http://www.ustyleit.com/Strategic_Planning.htm
- ³ For instance the plan describes roads in Wabag, Laiagam, Kompam, Wapenamanda and Porgera as 'good' (Vol. 2 p. 88). The author travelled to Wabag before writing last week by road and the average speed we were able to maintain was around 30kms/hr due to the condition of the road passing through Kompam and Wapenamanda to Wabag.
- ⁴ I am indebted to Jim Robbins of the National Research Institute for his assistance in this.
- ⁵ The author visited a plantation which has been revived by an entrepreneurial farmer in the Bena Valley where he had been able

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to revive a small plantation and employ his tribesmen as well as provide processing facilities, expand into a tribal fight area and act as a model. The problem is that such ventures in Papua New Guinea have tended to rely on personalities and when for some reason they move on the projects collapse.

- ⁶ Calculation based on area under coconuts and production of coconut products in 2006, adjusted for conversion from copra to copra oil.
- ⁷ A vehicle traveling at less than 10 kilometres per hour on an almost impassable road is a sitting target for hold ups.
- ⁸ WR Carpenters, pers. comm.
- ⁹ In a Regional Development Forum in Goroka and another in Madang the author heard diatribes from the audience about why voluntary registration of customary land should not be allowed. The debate was hijacked and emotional misrepresentation meant that people, including university students, somehow believe that if they register their land someone will be able to come and take it from them.
- ¹⁰ In East New Britain roads and bridges are disappearing under soil washed down from high population areas.
- ¹¹ D. Freyne, pers. comm.
- ¹² It is important to realise that tropical agricultural research is often very location-specific, for example varieties bred in Papua New Guinea may not flourish in Malaysia and vice versa so Papua New Guinea should continue with its own research. In any case it has had some very good results over the last 20 years.

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