Chapter 5

Policy Making in Agriculture

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Introduction

As successive strategy and policy papers have emphasized, agriculture is the most important economic sub-sector in Papua New Guinea. We are constantly told that agriculture provides the livelihood for about 85 per cent of the economically active population. The agriculture sector covers the activities of the private and public sector in cropping, animal husbandry, management of land and water resources, and post-harvest areas within the continuum of agriculture systems, from small-scale subsistence to intensive, commercial agri-business activities.

The colonial legacy in agriculture was described in an earlier policy-making workshop at the Australian National University, in 1977 (McKillop 1981). It followed a dual policy of encouraging a commercial plantation sector and providing settlers with the 'full benefits of modern agricultural scientific knowledge' on the one hand, and promoting a smallholder peasant proprietorship on the other. Professionals working in the Department of Agriculture, Stock and Fisheries (DASF) provided policy and technical support. DASF was a specialist, technically-orientated department modelled on Australian practice. As such, it stood apart from the generalist administration model generally associated with colonial administration of pre-colonial societies. Well-trained professionals with pride in their achievements staffed the department. Through its research work, particularly at the Lowlands Agricultural Experiment Station (LAES) at Keravat, DASF had established an internationally recognized capability in tropical agriculture. The focus was on export tree crops in which Papua New Guinea had a comparative advantage — primarily coffee, cocoa and coconuts — which reinforced a strong commodity orientation within the Department. The establishment of a palm oil industry in West New Britain in the late 1960s also demonstrated a comparative advantage for Papua New Guinea in this crop and the success of the new industry reinforced the orientation toward export tree crops in agriculture policies.

During the transition through self-government to independence, DASF was able to attract a new wave of dedicated professional personnel in a range of fields. New headquarters sections were established in economic research, training, extension research and planning, while research activities were extended from the station into the village agricultural system. A major survey of subsistence agriculture in 1961–62 had involved practically all DASF field staff in data collection. Field extension staff were required to undertake and write-up a major project on village agriculture as part of their orientation program, while departmental officers and visiting researchers undertook innovative projects to better understand and document village agricultural systems during the 1970s and early 1980s. Much of the basic data pertaining to Papua New Guinea village agriculture was collected in this period and there was a greatly expanded interest in the day-to-day operations, including the strengths and weaknesses, of local farming systems.

An important element of the colonial agricultural administration that was not given prominence in the 1977 workshop was the high level of autonomy due to its Australian heritage. The professionals of DASF reported to generalist administrators in Canberra who had limited capacity to analyze the complexities of Papua New Guinea agriculture, so there was little policy initiative from the centre. Moreover, DASF headquarters officials in Port Moresby were isolated, both physically and culturally, from the day-to-day operations of the district office and research station. Individual field officers therefore had a high degree of latitude in formulating their own policies and programs. It was an opportunity that many exercised to the full.

Papua New Guinea's transition to independence occurred toward the end of the decolonization era. It had become fashionable to blame the focus on export crops for the ills of developing countries, and 'self-reliance' had become the catch-cry for newly independent nations. In Papua New Guinea, visiting experts and local politicians were soon urging more self-reliance in the agricultural sector through increased production of grain crops to replace imports. They made little headway within the technically orientated DASF, which could now draw on empirical data to show that village farmers sought to maximize the returns to labour. This was a matter of considerable frustration to politicians taking up the agriculture portfolio. The flamboyant former minister of Agriculture, Iambakey Okuk, called a meeting of DASF staff in Goroka in early 1973 to express his views that the heavy expenditure that continued to be made in research was irrelevant to the country's needs.

Policies at independence

Policy making at independence was characterized by a plethora of interpretations of how the Eight National Aims for a more equitable, self-reliant nation with Papua New Guineans taking control of the economy might be put into practice. In the agriculture sector, a dominant policy issue was the desire to achieve greater self-sufficiency in food. Politically, urban consumers seeking to reduce the price of fresh food, particularly in Port Moresby, drove the pressure for domestic production of root crops, fruits and vegetables for sale in the urban areas. This pressure led to demonstrations in Port Moresby in 1974. Policies to support this aim therefore had to contend with the inherent conflict of stimulating production while keeping prices down in urban areas.

In keeping with the Australian tradition of local autonomy, the fresh foods 'policy' was generated largely in a series of papers prepared as an individual initiative by a DASF officer appointed as national coordinator for fresh food marketing (McKillop 1981, 245–7). The National Executive, in response to the demonstrations in Port Moresby, hurriedly approved a Fresh Food Project (FFP) in 1974. There was lavish expenditure on marketing and storage facilities and the FFP promoted the concept of centralized warehouses and the establishment of some fifty large-scale farms to supply the fresh food needs of major urban centres. The approach undermined the operations of existing food-marketing organizations that were then emerging in the provinces and drove them out of business. Having achieved this dubious outcome, the FFP then encountered funding problems and the venture folded after incurring high financial losses. The basic policy issues of food production for urban markets remained unresolved. There was no assessment of whether the objective was to encourage urban development through low food prices or rural development by supporting higher prices for producers, while the action of the government in controlling the market and thereby undermining local marketing organizations was simply ignored.

The saga of the FFP provides an example of an ongoing theme in Papua New Guinea policy making. While the rhetoric of politicians might give voice to the claims of rural areas, the actual allocation of resources remains heavily biased toward urban areas.

In terms of food security, the major changes since 1870, and especially after 1940, centred on the introduction of new food crops into Papua New Guinea farming systems. New root crops, banana types, maize and peanuts had extended growing periods and increased land productivity by independence. Enhanced access to cash income, primarily through cash crops, also enabled rural households to improve their food security by purchasing food when local supplies were in short supply. However, the rhetoric of food self-sufficiency also brought political pressure to grow cereal crops, primarily rice, to replace imports. Since the nineteenth century, German, Australian, Japanese and national government administrations had promoted rice to provide an easily stored, easily transported and convenient staple food. Despite large investments and subsidized inputs, these efforts have been unsuccessful as the returns to farmers have not been attractive compared with traditional root crops or introduced cash crops. Despite these failures, the 1975 Food Crops Conference called for investigations into the cost-benefits and acceptability of cereals for human consumption (Willson and

Bourke 1976, 13–17) and heavily subsidized machinery was provided for the remaining rice growers in the Bereina area, west of Port Moresby.

Statements of hope: policy making since independence

Macro-economic framework

The government's macro-economic policies have had a major influence on the agriculture sector. From independence to 1993, the government followed a 'hard kina policy'. This period was characterized by prudent fiscal policies, high kina exchange rates, real wage rigidity, and high import dependency. Protective measures were used to establish several agricultural industries during this period, notably sugar and poultry. Import bans were partially imposed on many imported foods in 1983, and more comprehensively in 1986, then replaced by import tariffs after 1993.

For the agriculture sector as a whole, however, macro-economic policies inhibited new investment and the assets of past investments deteriorated. Cash cropping faced pressure from increasing production efficiencies in other countries that grow the same crops as Papua New Guinea and from high cost structures within Papua New Guinea. Since 1989, the Papua New Guinea macro-economic environment has experienced a series of severe shocks, some of them due to natural disasters, some to external factors, and others as a consequence of internal conflict and policy decisions within Papua New Guinea. Serious drought in 1997 also had an impact. There was a sharp decline in food production in the short-term, but it recovered within 6–18 months, while the production of some cash crops (such as coffee) actually increased in the year following the drought. Nevertheless, the drought helped to highlight the importance of agriculture to the well being of Papua New Guinea and the vulnerability of the food production system to climatic extremes, as well as the paucity of implementable policies on food shortages.

Agriculture policies

Institutionally, much of the policy debate in post-independence Papua New Guinea has reflected nostalgia for the expansive extension services of the colonial era. There has been much criticism of the under-resourced public sector field staff trying to maintain services to communities who were increasingly vocal in their demands for government 'hand-outs'. From this perspective, most agricultural support service delivery is seen to have collapsed following independence. This in turn has generated pressure for improved delivery systems to reach village farmers. Popular 'solutions' include efforts to decentralize government services and to enhance the performance of individual industries through corporatization of marketing and service delivery functions.

Coffee, the dominant cash crop in the Highlands Region, provided the initial impetus for an industry corporation. Rapid expansion of corporate services for the industry occurred to address the threat to the industry's survival as a result of the arrival of coffee leaf rust in 1986. Donor assistance was provided to research the problem and the Coffee Development Agency (CDA) was established to deliver extension packages in response to the crisis. The *Coffee Industry Act* of 1991 formalized the amalgamation of separate organizations responsible for marketing, extension and research in the coffee industry as the Coffee Industry Corporation (CIC). The Department of Livestock (DAL) and provincial divisions of primary industry (DPIs) were to withdraw from these fields.

The apparent early success of the coffee industry model led to a policy to assist the key agriculture industries to corporatize in order to establish a new work ethos for enhanced efficiency and service orientation. The creation of organizations, which would be controlled by, accountable to, and financed by the industries, was a major thrust of these policies. The cocoa and coconut industries, which had maintained their separate marketing boards from the colonial era, formed research and extension organizations under joint-venture arrangements. The Cocoa and Coconut Research Institute (CCRI), established in the mid-1980s, formed the Cocoa and Coconut Extension Agency (CCEA) in 1996 to provide extension services in the cocoa and coconut industries. The CCEA started as a small organization, initially with industry funds used only for top management. Front-line extension staff were to be provided by the provinces. Similarly, the Oil Palm Industry Corporation (OPIC) was established to provide extension services to smallholders as one of its main functions. It is partly funded by levies on production, but has also benefited from STABEX funding as well as government grants. The Livestock Development Corporation (LDC) has a mandate to manage Papua New Guinea abattoirs. It was designed to be self-funding through levies, but has become active in developing horticultural crops in Central Province.

The Medium Term Development Strategy (MTDS) provided the framework for agriculture policy making from 1994. The MTDS sought to redefine the role and institutions of government to give better support to the people in their own efforts to secure a better standard of living. The key priorities of the MTDS were health, education, infrastructure and the private sector. Agriculture was encompassed in the private sector, which was to be the 'engine of growth' for productive enterprise. Government involvement in this sector was to be restricted to facilitating access to credit, research and extension, training services, and monitoring the commercial activities of government.

DAL formulated its own version of a MTDS for the agriculture sector in 1996 (DAL 1996). The DAL paper presented plans for a 'new look' DAL that would serve as a facilitator of growth in the sector. The major strategic initiatives were to be the establishment of the National Agricultural Research Institute (NARI) and the National Agricultural Quarantine Inspection Agency (NAQIA). An Agricultural Credit Guarantee Scheme for smallholders was also to be launched. The strategic objectives were to:

- maintain a macro-economic environment and incentive regimes that do not discriminate against agricultural growth;
- improve the effectiveness of public institutions, programs and expenditure for agriculture;
- foster greater private sector participation in capital investments and in the provision of agricultural support services where it is economically viable;
- promote investments that offer opportunities for new export earnings and efficient import substitutions; and
- address the deficiencies in agricultural production, support services, delivery systems, and in the physical and economic infrastructure.

In 1998, DAL approached the Food and Agricultural Organization (FAO) of the United Nations for technical assistance to reform the country's legal and institutional arrangements for management of the agriculture sector. The intention was to re-establish DAL as the central government body responsible for management of the agriculture sector. The FAO consultants noted that DAL remained in a marginalized and moribund state. While it was no longer appropriate for DAL to implement programs, there was a need to build the capacity of a small office to provide the lead role in policy making for the sector. This would require DAL to significantly enhance its capacity in strategic planning, monitoring and evaluation of programs and projects (FAO 2000, 8). Moreover, these functions should be carried out in close collaboration with other national, provincial, and local government agencies, industry corporations, and the private sector.

In August 2001, DAL launched its agriculture development strategy, Horizon 2002–2012 (DAL 2001). Developed in isolation from other key agencies in the sector, the analysis of the sector given in the strategy paper was supply-driven and it demonstrated little appreciation of factors influencing demand. Horizon 2002–2012 put forward a number of interventions, many of them contradictory, designed to reverse the decentralization and corporatization policies of the post-independence period.

While reiterating the principles of the MTDS and stating support for an efficient private sector as the key force in revitalizing agriculture, it sought to centralize control of the sector through legislative reforms, expanded government spending, and a National Agriculture Development Plan. A 'paradigm shift in land tenure policies' was envisaged, using a cooperative model to mobilize land for big investment projects, but restricting ownership to the members of the clan. On the other hand, the government was 'advised' to secure access to land for private investors. Marketing was to be privatized in the coconut industry, but DAL's marketing role was to be strengthened in the rubber industry. DAL was also to take the lead in forming farmers into marketing cooperatives, apparently drawing on experience from Asian countries. An annual budget of between K102 and K108 million was envisaged for the first five years of the planning period.

Not surprisingly, the launch of the Horizon 2002–2012 strategy paper to industry representatives at a workshop in Lae in late 2001 received a negative response. Those bodies that were invited to the workshop by DAL saw the strategy largely as an attempt by a weak and ineffective department to regain control over all aspects of agriculture policy and production in Papua New Guinea, including the export tree crop sector.

Food security

With the structural changes in the agriculture sector, DAL's policy-making role has been increasingly restricted to food security issues. At the same time, political imperatives have increasingly dominated technical and economic reality.

In 1989, a White Paper on Agriculture recognized that food supplies and the overall levels of nutrition were generally adequate throughout the country and looked to improvements in market access as a means of improving the quantity and quality of domestically produced foods for urban markets (Papua New Guinea 1989). A paper by a DAL agricultural economist in 1992 argued that because rice production in Papua New Guinea was a high risk and high cost activity, the cheapest way for Papua New Guinea to obtain rice was to devote resources to export production (Gibson 1992). The following year, the Papua New Guinea Rice Study showed that the cost of producing rice in Papua New Guinea was more than twice the cost of imported rice (Sloane, Cook and King 1993). It concluded that commercial production of rice was not viable in Papua New Guinea and recommended that rice cultivation be limited to small-scale production for subsistence consumption. Both these conclusions were unpopular in the increasingly politicized culture of DAL, where staff with analytical expertise in the agriculture sector had their contracts terminated and national officers were discouraged from undertaking rigorous assessments of policy issues.

Agriculture policy-making changed significantly as a result of the dramatic impact of the 1997 drought and frosts on food supplies (see chapter 17). There was a total or partial collapse of food supplies in many areas and it was estimated that around 260,000 people were in a life-threatening situation with little or no food other than that collected from the bush. Another 980,000 were estimated to have small and inadequate amounts of food available from gardens, sago palm, coconuts or fish. In response, rice imports increased from a forecasted 170,000 tonnes to 236,000 tonnes in 1997–98 (Bourke 2001). However, following the resumption of normal subsistence food production, food imports declined rapidly to levels well below those pertaining before the drought. As a consequence of the drought experience, food security gained prominence in policy-making circles. The PNG Food and Nutrition 2000 Conference was one of the outcomes of this awareness. The conference proceedings brought together 115 papers on various aspects of food production and food security in the country (Bourke *et al.* 2001). The recommendations from the conference were used as basis for a new policy submission to the National Executive Council (NEC) in late 2001.

Increasingly, official documents have claimed that Papua New Guinea is a food deficit country with poor food security. For instance, the 2000–2010 Food Security Policy concluded that: 'the long-term sustainability of the national food security in PNG is precarious, based on the present trend of over dependence of imported food' (DAL 2000). This argument, based on rhetoric rather than fact, has served as a vehicle for DAL's efforts to regain an implementation role in the sector. For example, in its draft 1993 agriculture strategy, DAL gave priority to establishing the optimum scale and technology for growing rice in Papua New Guinea. This would focus on mechanized rice production in the Bereina area and small-scale upland varieties in the Maprik District of East Sepik Province. A 1998 submission to the NEC proposed investing K36 million over ten years for an intensive program to increase rice production (DAL 1998). It put forward a 39-member DAL-led implementation team, new housing and vehicles for the team, training of the extension team, technicians and farmers, subsidized seed production and distribution, DAL-operated machinery pools, 1000 ha irrigation development and a further 4000 ha of mechanized rice cultivation. The NEC approved the establishment of the Rice and Grain Authority and the allocation of K4 million to the rice programs in 1999. The 2000–2010 Food Security Policy proposed that Papua New Guinea put some 100,000 ha of rain-fed lowland rice into production in order to produce some 150,000–170,000 tons of milled rice per year (DAL 2000). Apparently the figure is derived from the rice import figure, but no analysis is provided as to how this target might be achieved.

Meanwhile in the real world: policy implementation

Policy responses

The dominant features of the protective, self-reliance policies of the immediate post-independence period were the 'hard kina' and import bans of selected food items. One outcome of the protective policies was the establishment of local poultry and sugar industries. Both industries have relatively efficient producers who keep abreast of international trends and performance standards. Ramu Agri-Industries operates a sugar cane estate, an outgrowers' scheme, a sugar factory, a sugar refinery, a distillery, four cattle ranches and a meat processing plant. Sugar production ranges from 30,000 to 44,000 tonnes per annum, with about 7000 tonnes exported in good seasons. About 150 outgrowers produce about 20 per cent of the cane for the mill. Establishment of a technologically advanced industry that provides some employment in the sector has come at the cost of high domestic sugar prices for PNG consumers and degradation of the environment that may affect the long-term sustainability of sugar cane growing (Hartemink 2001, 360–362).

Three major producers, with three large, vertically-integrated operations that control feed milling, breeding, growing, processing and distribution, dominate the poultry industry. They are protected by a 70 per cent tariff on imported poultry products. There are also established poultry farmers servicing the live chicken market in most provinces. Although growers regularly complain of low returns, live chicken prices in many centres are two to three times those of the frozen product from supermarkets. While Papua New Guinea is virtually self-sufficient in poultry meat and eggs, the net foreign exchange saving is reduced by heavy reliance on imported feed. Global changes mean both industries are vulnerable to lower-cost external producers as trade barriers are lowered.

Although these small industries benefited from protection, the overall impact of the 'hard kina' policies on the agriculture sector was negative. While governments have regularly indicated their appreciation that agriculture directly or indirectly sustains the majority of the country's population with food and income, the performance of the sector in terms of productivity and employment generation has sometimes been stagnant since independence. Official figures indicate that agriculture grew at only 1.7 per cent per year during the 1980s, while population growth amounted to 2.3 per cent, but these do not cover subsistence production nor domestically-grown market food. With improved prices for export crops, the agricultural sector grew strongly during the 1990s. The 2004 budget papers indicate that the agriculture, forestry and fishing sector grew at 9.1 per cent in 2000, declined by 5.3 per cent in 2001, grew again by 7.3 per cent in 2002 and was projected to grow at an annual average rate of 2.9 per cent over the five years 2003–2007.

Slow growth in employment is a critical problem in Papua New Guinea. From 1980 to 1990, urban unemployment increased from around 9 per cent to 35 per cent, while rural unemployment rose from 21 to 38 per cent. Lack of employment opportunities has been linked to the rapid increase in crime. High crime rates have generated major costs on business and undermined investor confidence, thereby inhibiting employment-generating activity.

Agriculture previously generated a high proportion of Papua New Guinea's formal employment through a large estate sector. The sector generated 52,000 formal jobs in 1970, but this fell to 45,000 by 1980 due primarily to the decline in the estate sector. Accurate statistics on formal employment by sector are no longer available, but a sector survey in 1998 estimated that the number of formal jobs in agriculture was less than 25,000. Increasingly, non-formal employment in smallholder farming has been seen as a means of keeping the rapidly expanding labour force engaged in gainful activities.

Coffee is the major cash crop industry, generating cash incomes to around two million people, but it has experienced somewhat slower growth over the decade 1991 to 2000. Export volume peaked at 85,000 tonnes in 1989 and again at 83,500 tonnes in 1998. Plantation coffee production has been in decline over recent decades and village-based smallholder producers now account for over 80 per cent of output. High wages and low productivity, together with ambitious localization of ownership/management, deteriorating infrastructure, and the declining security situation, were key factors in the demise of plantations. This in turn has reduced formal employment opportunities. Cocoa production has also stagnated at around 27,000–37,000 tonnes since independence. The industry has been under pressure from a general decline in international cocoa prices, a receding estate sector, natural disasters (particularly the Rabaul volcanic eruption of 1994), and adverse weather conditions. The secessionist rebellion in the cocoa growing province of Bougainville since 1989 resulted in the closure of 15,800 smallholder cocoa blocks and 111 estates (DAL 2001, 22).

After a long period of stagnation, copra production increased for the period 1996–2000 in response to improved prices. Production of other cash crops, such as rubber, tea, pyrethrum and spices, has declined or been stagnant over the past twenty years. The outstanding performer on the export cash-cropping side has been oil palm, where high-yielding genetic material has given Papua New Guinea a comparative advantage over other producers. The industry has expanded to four mills in West New Britain and one each in Oro, New Ireland and Milne Bay provinces. Average palm oil export volumes reached 368,000 tonnes in 2007, compared with an average of 122,400 tonnes per year from 1984 to 1990. The price paid to smallholder growers increased dramatically through the 1990s and again in 2008. The crop is generating considerable wealth in the areas where it is being produced. With a more competitive exchange rate, further investment in industry expansion is occuring given a stable political climate.

The corporatization experiment has yielded mixed results. The Oil Palm Industry Corporation (OPIC), through the PNG Oil Palm Research Association (OPRA), provides a cost-effective and technically well-managed research program for oil palm. While OPIC also has the best-developed management and operating systems of the industry extension services, it has been criticized on the grounds that it is not accountable to industry, which pays a substantial proportion of costs, and that performance criteria are based on area planted, not production. This problem has been addressed in West New Britain, where OPIC extension operations have achieved financial self-sufficiency. In the Hoskins area, the resultant increase in efficiency has seen the extension worker to farmer ratio increase from 1:80 to 1:200.

In the other tree crop industries, the results are less encouraging. Generous aid funding during the 1980s enabled the CIC to rapidly expand its research facilities and extension organization, with the latter employing some 300 staff. When funding to these institutions was sharply reduced in 1997 following the end of donor support and general government budget constraints, a major cutback was required. Politicization has also hindered the effectiveness of CIC operations, which have come under increased scrutiny as the industry faces declining production and quality issues. When the CCEA was established, the rapid and unsustainable expansion of the CIC extension service was identified as a lesson, so the strategy was to mobilize provincial resources. This arrangement was threatened by uncertain managerial responsibility, the unsatisfactory performance of many provincial DPI staff, and the downsizing of DAL and provincial establishments. In order to provide an effective service, CCEA had to recruit its own provincial managers, therefore reducing the financial viability of the service.

The major policy change affecting agriculture in Papua New Guinea has occurred as a consequence of poor economic management. A range of factors has led to the devaluation of the Papua New Guinea currency since September 1994. By the 2007, the kina had declined to a value of K1 = $US0.34, compared with about K1 = $US1 in the early 1990s and K1 = $US0.72 in mid 1997. (It has since recovered somewhat, fluctuating between $US 0.30 and $US 0.36 between January and September 2008).

While the dramatic change in exchange rates has brought hardship for urban consumers and increased the cost of imported farm inputs, it generally has positive outcomes for the agriculture sector. Shifts in exchange rates have helped increase returns to Papua New Guinea primary producers relative to competing imports and make Papua New Guinea's agricultural products more competitive in international markets. To the extent that marketing systems are 'open' and pass on price changes to producers, the big winners are Papua New Guinea farmers who predominantly use local resources (land and capital) to generate their product. These are predominantly small-scale commercial and semi-commercial farmers who use minimal amounts of imported items. In summary, recent economic changes have provided a window of opportunity for agriculture to build on its enhanced comparative advantage to create efficient, sustainable industries that generate income, provide employment, and ensure food security for the majority of the population.

Domestically marketed food production has been one of the success stories in Papua New Guinea agriculture over the past twenty-five years. The available evidence suggests that Papua New Guinea's domestically marketed food production has kept pace with population growth and that it has accelerated rapidly since 1998 following the devaluation of the kina and recovery from the 1997 drought and frosts (Bourke 2001, 6–7). This has occurred despite the constraints of poor governance and an unsatisfactory policy framework. Moreover, the level of food imports into Papua New Guinea is not particularly high. Rural people consume an average of 24 kilograms of rice and seven kilograms of flour per year, while imported foodstuffs account for only one sixth of the calories consumed by rural households (Bourke 2001, 7). Nevertheless, there are significant constraints to the continued supply of quality foodstuffs to urban markets at competitive prices.

The capacity of government to respond to these challenges has been seriously eroded during the post-independence period. Under the above devolution policies, the role of DAL has been dramatically reduced over the past twenty years and especially in the last ten. From being the organization responsible for almost all support services and public capital spending for the sector, DAL has lost responsibility for most projects, general extension, research and quarantine, and for most research, development and extension functions for the coffee, copra, cocoa and oil palm industries.

The supposition was that, when new organizations were formed to take on functions formerly performed by DAL, they would take on most of the resources formerly used by DAL for those functions and that DAL would have cost reductions similar to the cost of the new organizations (Woodward 1998). This expectation was not born out in practice. In common with other areas of institutional change in Papua New Guinea, weak public administration meant that the changes were never implemented as intended. With a strong nostalgia for the past, DAL actively lobbied to retain its staff and budget, despite the transfer of functions out of the department. It had its most dramatic 'success' under the Skate administration, when, in the 1999 budget, the newly established NARI and NAQIA received a zero allocation of funds, while DAL retained substantial funding. In addition, DAL refused to transfer a number of research positions under its establishment to NARI.

By retaining large numbers of staff without useful functions, DAL has become an aimless organization with low staff morale. Motivated, skilled staff have sought opportunities elsewhere, leaving the 'time servers' to fill the numbers. The result has been a decline in analytical capacity and the politicization of policy making. Recent analysis of DAL highlighted the functions of economic research and analysis, strategic planning, market research, and policy advice and coordination as key areas that are not currently being performed (Woodward 1998). Related functions are monitoring and evaluation (M&E), which should generate key data on actual performance across the sector, and training, where

DAL no longer has an implementation function, but for which there is also a policy vacuum.

Functionally, food and food security has been left as the main policy function of DAL. Increasingly, its policy papers have become statements based on narrow arguments that seek increased allocations of funds to politically popular causes, especially rice growing. They lack a sound analysis of the situation and put forward unrealistic hopes.

Farmer participation

In the colonial era, expatriate-dominated bodies, such as the Farmers' and Settlers' Association in the highlands and the Planters' Association in the lowlands, had considerable influence in policy making. The decline of the plantation sector in the post-independence era brought a corresponding reduction in the effectiveness of these bodies. At the same time, grower bodies representing smallholders began to play a more important role as 'watchdogs' for the rural sector and lobbied governments on agricultural issues affecting farmers generally. The former Planters' Association, which changed its name to the Papua New Guinea Growers' Association in 1990, has become an effective lobby group for smallholder farmers in the copra and cocoa industries. Similarly, the Smallholder Coffee Growers Association had emerged as an important player by 1998, representing about 14,000 members across fourteen coffee-growing provinces.

The Papua New Guinea Growers' Association was a prime mover to bring all the farmers and industries bodies of Papua New Guinea together under the Rural Industries Council (RIC) to raise the profile of agriculture in Papua New Guinea and give a stronger voice for policies to support the sector. The RIC has established a representative office in Port Moresby in association with the Institute of National Affairs. Its aim is to establish a powerful advisory body for the agriculture sector with strong private sector involvement.

An important, but neglected, area of policy concerns the role of women in agriculture. The central role of women in agriculture has largely been ignored by farmer bodies and the government institutions servicing the agriculture sector. These institutions interact predominantly with men and, at the operational level, decisions about cash-cropping and the sale of these products are dominated my men. Moreover, there is a strong gender bias against women in the education system and men account for 82 per cent of all formal employment. This pattern in turn reinforces the male bias in access to agricultural services and credit. While DAL established a Women-in-Agriculture Development Programs in 2001, effective strategies to achieve its objectives have not been forthcoming.

The disadvantaged position of women is identified as a key constraint on the further development of the agricultural sector in Papua New Guinea. Not only do women play a significant role in the production of food and other agricultural products, but they are generally the more innovative and reliable operators in the downstream processing and marketing activities of those products. There are many positive cases where women have established successful savings and loans programs or taken the lead in marketing agricultural produce. In the formal sector, most employers find women to be more reliable in handling money and other assets, or in routine tasks requiring high productivity (such as food processing) and give preference to employing women in these areas.

A feature of the Papua New Guinea community response to breakdown of public sector service delivery has been the proliferation of non-government organizations (NGOs) and community-based organizations (CBOs) that seek to help groups meet their development aspirations. These groups comprise the voluntary sector that seeks to initiate local development initiatives. Women's groups have been among the more effective in this movement. Overall, however, NGOs and CBOs demonstrate weaknesses in assessing genuine community needs and identifying, designing, implementing and monitoring projects that actually deliver benefits to the community on a sustainable basis.

In the field of agricultural research, NARI's mandate is to clearly define priority problems deserving research, plan viable research approaches and conduct them in a disciplined manner, and then to ensure that useful results are extended to stakeholders via appropriate channels. It is seeking to tackle the latter task through an outreach and liaison (O and L) program based on different approaches and strategies to those of the past. This seeks to make more efficient use of available resources through strategies that maximize development impact and sustainability.

The challenge has been to focus scarce resources on those target groups that have the potential to respond to opportunities and initiatives. As with other institutions, there is a reluctance to provide a policy framework that supports a performance outcome. Nevertheless, NARI's O and L program has identified four primary target groups: commercial smallholder food producers, at-risk subsistence farmers, alternative cash crop producers, and peri-urban gardeners. These groups provide balance across NARI's areas of responsibility and offer prospects for highly visible and short-term results. NARI's strategy is to build partnerships with a range of extension agencies or facilitators for the effective two-way exchange of information and technology between itself and target groups.

Conclusions

Official 'policy making' has become increasingly irrelevant to farmers and other stakeholders in the agriculture sector. While officials have dithered over impractical proposals, farmers have got on with the job of producing food and cash crops. The evidence is that smallholders are efficient producers of traditional food crops for domestic markets and that they demonstrate strong supply responsiveness to prices. The success of vanilla in the early 2000s is an outstanding example of the latter.

The great majority of smallholders, however, face major constraints in moving to a more commercial form of production that delivers agricultural products that meet market requirements. Social norms, jealousy, factionalism and obligations within the village greatly inhibit the time available for surplus production and the motivation to achieve high incomes to a greater or lesser degree for different groups. Access to adequate areas of good agricultural land, inputs supply, and marketing services are also major factors affecting the response to agricultural opportunities. Taken together, these factors generate a wide range of diversity in the agricultural sector. Some individuals and groups demonstrate a remarkable capacity to respond to new challenges and opportunities; most do not.

Shielded from reality by supply-driven 'solutions', most policy makers have demonstrated limited appreciation of the diverse and dynamic nature of Papua New Guinea's agricultural sector. The result is that policies — and extension effort — have been directed at households that were not responsive to the technology and work obligations being promoted. Nevertheless, since independence, many individuals are overcoming the odds and 'breaking the chains' of social and economic constraints to meet market requirements on a commercial basis. They include migrants who have taken up land near urban centres, individuals who have secured clear title to parcels of customary land, and outreach growers contracted to a central agency providing a tightly managed integrated package of inputs, technical advice, credit/banking, monitoring and transport services.

Unfortunately, neglect and the constraints of a Port Moresby-bound bureaucracy have left policy making bodies, particularly DAL, with little capacity to respond to the reality of the agriculture sector. DAL, in particular, has experienced a decline in analytical capacity and its policy making function has been reduced to political rhetoric. The result is a policy vacuum where documents pertaining to be 'policy' are little more than pleas to 'turn the clock back' to a perceived better past. Not only is this impractical, but the proposals are based on visions of establishing command-based organizations with highly centralized power structures. Such organizations have not worked in Papua New Guinea in the past and they are not likely to do so in future.

In this policy vacuum, outside consultants and technical experts have become highly influential in a piecemeal policy making process. Given the absence of practical policy guidance from government on key issues, industry bodies and lobby groups (including aid donors) have hired consultants and technical experts to formulate recommendations based on the perspective of the particular group. As there is an absence of policy analysis capacity to even examine these documents from a Papua New Guinea national perspective, they inevitably have a stronger influence than they would otherwise have. policy making in this environment therefore becomes a disjointed and fragmented process that generates contradictory policies shaped by various interest groups.

This situation is not helpful to Papua New Guinea agriculture, which needs to become more efficient and competitive in order to meet the challenges ahead. If DAL is to become an effective policy making body, a dramatic turnaround in approach and capacity is a prerequisite. The new DAL will need to revitalize itself as a small organization that works in partnership with key stakeholders to catalyze and facilitate realistic solutions, not a controller. It will also need to build its capacity to understand market systems, collect data, analyze and define problems, and then assemble and/or facilitate the resources of others to address these problems. This implies a new realism in terms of DAL's concept of its role, its performance assessment systems and its reward structures.

The prospects for such an outcome are not bright. DAL has lost the confidence of government and industry as a respectable policy making body. Accordingly, there is limited support for its revitalization. Meanwhile, the agriculture sector limps along. Ironically, its prospects have been significantly enhanced by 'policy failure', in the form of the collapse of the kina, which has greatly enhanced the competitiveness of Papua New Guinea agriculture. The capacity of its agricultural industries to respond to these opportunities will depend primarily on the influence of social factors and security in the main agricultural areas and the market chain that links these producers with consumers. Most likely, agriculture policy makers in Port Moresby will remain irrelevant to this outcome.

Postscript

In 2007 National Department of Agriculture and Livestock prepared a National Agricultural Development Plan for the period 2007 to 2016 (Ministry of Agriculture and Livestock 2007). This was submitted to the National Executive Council which endorsed it and committed significant funds to the NADP of about K1200 million over ten years.

In 2008, K68 million was allocated with a further K100 million in 2009. As with the earlier 2002–2012 strategy prepared by NDAL, the NADP has been viewed poorly by many in the agriculture sector in Papua New Guinea. The comments by the director of the Institute of National Affairs in an article in the *Papua New Guinea Post-Courier* (Barker 2009) are likely to reflect the views of many in the agriculture sector. Barker wrote:

> NADP has largely been a wasted opportunity, so far. Grants have been made to individuals and businesses without clearly applied criteria or quality checks. Why should one group secure a large subsidy and not another, undermining a level playing field, those borrowing, while

encouraging corruption; for example K17 million for 6000 head of cattle indeed, or nearly K3000 per head of unremarkable cattle! We need to be much more prudent with (limited) investment funds.

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