ASIAN DEVELOPMENT BANK

PPA:PNG 22355

PROGRAM PERFORMANCE AUDIT REPORT

ON THE

AGRICULTURE SECTOR PROGRAM
(Loans 997[SF]/998-PNG)

IN

PAPUA NEW GUINEA

July 2001

CURRENCY EQUIVALENTS

Currency Unit – Kina (K)

		At Approval (December 1989)	At Completion (June 1992)	At Operations Evaluation (February 2001)
K1.00	=	$0.8435	$0.9563	$0.2976
$1.00	=	K1.1855	K1.0457	K3.36

ABBREVIATIONS

ABPNG	–	Agriculture Bank of Papua New Guinea
ADB	–	Asian Development Bank
ASP	–	Agriculture Sector Program
CCEA	–	Cocoa and Coconut Extension Agency
CIC	–	Coffee Industry Corporation
DAL	–	Department of Agriculture and Livestock
DPI	–	provincial Department of Primary Industry
DPL	–	development policy letter
EU	–	European Union
EW	–	extension worker
FME	–	farm management economist
IPA	–	Investment Promotion Authority
NAQIA	–	National Agricultural Quarantine and Inspection Authority
NARI	–	National Agricultural Research Institute
OPIC	–	Oil Palm Industry Corporation
OPO	–	Office of Pacific Operations
PCR	–	program completion report
PIE	–	project implementation economist
PIP	–	public investment program
PNG	–	Papua New Guinea
RRP	–	report and recommendation of the President
SAP	–	structural adjustment program
SDR	–	special drawing rights
TA	–	technical assistance
TOR	–	terms of reference
VAT	–	value-added tax
WB	–	World Bank

NOTES

(i) The fiscal year (FY) of the Government ends on 31 December.
(ii) In this report, “$” refers to US dollars.

Operations Evaluation Department, PE – 569

CONTENTS

BASIC PROGRAM DATA
Agriculture Program Loan (Loans 997[SF])/998-PNG)

SUPPORTING ADVISORY AND OPERATIONAL TECHNICAL ASSISTANCE

TA No.	TA Project Name		Approval Date
1237	Review of Commodity Stabilization Fund Schemes	**Amount ($)**	12 Dec 1989
1238	Review of Agricultural Taxation and Tariff Systems		12 Dec 1989
1239	Agriculture Credit and Rural Savings Study	160,000	12 Dec 1989
1240	Agriculture Sector Program Implementation and	120,000	12 Dec 1989
	Strengthening Department of Agriculture and	340,000	
	Livestock's Farm Management Information System	500,000	

KEY PROGRAM DATA ($ million)	**As per ADB Loan Documents**	**Actual**
ADB Loan Amount/Utilization[1]		
From Special Fund Resources	56.0[2]	56.0
From Ordinary Capital Resources	24.0	24.0

KEY DATES	**Expected**	**Actual**
Appraisal		2-6 Oct 1989
Loan Negotiations		21 Nov 1989
Board Approval		12 Dec 1989
Loan Agreement		22 Dec 1989
Loan Effectiveness		22 Dec 1989
First Disbursement		17 Apr 1990
Final Disbursement	22 Dec 1990	24 Dec 1991
Loan Closing	31 Dec 1991	30 Jun 1992
Program Completion		Mar 1995
Months (effectiveness to completion)		62

BORROWER Papua New Guinea

EXECUTING AGENCIES Bank of Papua New Guinea through its Operations Department, and the Department of Finance and Planning

MISSION DATA	**No. of Missions**	**Person-Days**
Fact-Finding	1	54
Pre-Appraisal	1	20
Appraisal (in Manila)	1	25
Disbursement	2	20
Inception	1	10
Review	3	34
Project Administration	1	10
Program Completion	1	32
Evaluation[3]	1	20

1 Released in two equal tranches comprising 50 percent of each loan.
2 Equivalent to SDR43.8 million.
3 The Operations Evaluation Mission comprised C.B. Amerling, Senior Evaluation Specialist (Mission Leader); and K. Woodward, Consultant.

EXECUTIVE SUMMARY

The Agriculture Sector Program (ASP) loans were approved in December 1989 to support the Government's medium term-development program for the agriculture sector. A blend of special and ordinary funds totaling $80 million plus cofinancing of $20 million from the Overseas Economic Cooperation Fund were provided. Funds were to be released in two equal tranches. Four technical assistance (TA) grants totaling $1.2 million were provided in conjunction with the loans. The focus was on private sector initiatives, particularly among smallholders.

Design was not preceded by a program preparatory TA, though sector work had been carried out by the World Bank (WB) prior to design. Policy dialogue was conducted via three Program Processing Missions, culminating with a development policy letter (DPL) drafted in November 1989. A number of major constraints identified in the ASP documentation as important to the agriculture sector were not covered in either the DPL or loan conditions. The rationale for the amount of the loans was not well supported. The amount well exceeded the identifiable adjustment costs of the ASP.

To meet conditions for the first tranche release, nine taxation incentives were required, subsidies on planting material were to be removed, and no further government support was to be provided to price stabilization funds for coffee, oil palm, cocoa, and coconut growers. For the second tranche, required policy changes included revision of price stabilization and investment policy, and a range of measures to strengthen institutions serving the sector. The TA studies on price stabilization, taxation, credit, and program implementation were intended to assist in addressing these issues. No initiatives were proposed to mitigate the negative effects of any adjustment required as a result of the ASP.

The use of local counterpart funds generated was targeted to the Public Investment Program (PIP) projects in agriculture and other rural sectors, of which the majority were externally financed. The amount available greatly exceeded the needs for activities closely linked to the purpose of the loans. The 1988 WB sector review had identified weaknesses in the PIP, and the extensive support for rural PIP projects may have involved inefficiency in use of resources. The resultant high commitment to development activities in a time of budget stringency may also have exacerbated shortages of recurrent funds including operating funds for the Department of Agriculture and Livestock (DAL) and the provinces and for road maintenance. However, Papua New Guinea (PNG) agricultural specialists note that ASP support for the PIP projects at that time may have prevented total collapse of the service systems.

The package of tax reforms lacked efficacy as almost all had been in force since 1985 or earlier. Given that the incidence of tax on agriculture was not high absolutely, and was substantially lower than in nonagriculture sectors, the measures chosen were relatively unimportant to investment decisions. This was especially the case for smallholders who paid no direct taxes. Reduction and removal of export tax and tariffs on imports of agricultural inputs was more relevant and beneficial to the sector. Suspension of the export tax remains, but tariffs on imports were reimposed at higher levels as soon as the conditionality allowed and this measure has had no lasting benefit. High protective tariffs on numerous other basic items important to smallholders were not addressed in designing the ASP and remain in force.

Introducing a value-added tax in 1999, part of a WB/International Monetary Fund structural adjustment program, has also adversely affected smallholders. The ASP conditionalities were mostly complied with, but poor or open-ended specification of conditionalities has resulted in achieving minimal impact.

Falling continually through the 1980s, commodity prices fell further after loan approval, and funding of price stabilization programs continued in contravention of conditionalities. An advisory TA was executed and understanding was reached on future management arrangements for stabilization efforts. However, after a change of government, the introduction of a guaranteed price scheme to run from 1992 to 1997 resulted in a major overcommitment of government funding, contrary to agreements reached. Eventually, however, substantial repayments of advances were made, excluding those funded by the European Union Stabex receipts, and the schemes were effectively terminated, with the exception of a small, internally generated coffee fund.

Investment laws, a minor constraint, were revised substantially and beneficially as required. However, the goal of a one-stop window for potential investors has yet to be realized. Subsidization of planting material was discontinued, though this was of minor importance and may have been counterproductive for disseminating improved technology.

The corporatization of extension services for the main tree crops was a key part of the institutional strengthening component. This was accomplished, though belatedly in the case of the cocoa and coconut industries. Most PNG agricultural specialists agree that the corporate systems are more effective than the governmental services that they replaced. However, their impacts have not been rigorously assessed and innovation in the extension methodologies used has been limited. In particular, women continue to receive inadequate attention from either tree crop or food crop extension services. The coverage and cost levels of the different industry services vary widely.

The ASP also required continued support for and strengthening of extension services to the food crop, minor crops, and livestock subsectors. Support was provided through the relevant PIP projects. However, these activities were identified by the WB review as being the weakest technically and managerially and continue to be affected by the imbalance between salaries and operating funds that affect departmental extension services. These services are supposedly targeted at the poorest sections of society and the fact that they have been largely bypassed during the process of corporatization is negative for reducing poverty.

The semiautonomous tree crop research organizations, government research for other subsectors, and specific services for quarantine and quality control were also to be supported under the ASP. This requirement was met. Further, separate corporations were established in 1998 for nontree crop research (the National Agricultural Research Institute) and quarantine services (National Agricultural Quarantine and Inspection Agency).

Overall, corporatization was enthusiastically adopted as a strategy for service delivery. While it has been successful in some areas, problems persist. Corporations are not financially independent and rely on government and external funding. This funding has been inconsistent, resulting in inefficiency and instability. Required levels of transparency and accountability have not been achieved; some corporations are years late in producing annual reports. Costs are higher and these ultimately are borne by the industries. Corporatization has been confused with privatization, and it has not resulted in an expanded role for the private sector. DAL has been further weakened and the service sector is fragmented. Corporatization has been a way of

sidestepping the fundamental problems of inadequate operating budgets and overstaffing that confront mainstream government departments, and has resulted in almost complete cessation of serious attempts to address these issues, including the long-standing issue of decentralization.

The four TAs, which covered planning, marketing, program implementation and farm management, and credit, mostly produced no lasting benefits. The problems are deep-rooted and relate to manpower weaknesses and, in the case of credit, a high level of political interference. In these areas the situation is worse than at the time of the ASP. The taxation TA yielded no policy changes and at best served mainly to confirm the inappropriateness of the incentive measures. All TAs would have been more effective had they been carried out earlier in the ASP.

The second tranche release was delayed by about one year. It is doubtful that all conditions for the release of the second tranche had been met. The Asian Development Bank (ADB) sent eight missions during the utilization period, with a strong focus on satisfying the conditionalities for the release of funds. The wide scope of other components made effective supervision difficult.

Observable indicators of ASP success were not quantified in the report and recommendation of the President (RRP). However, the expected benefits in terms of smallholders adopting more efficient management practices and increasing use of purchased inputs have not been met. Levels of production of tree crops forecast in the RRP have not been reached and rural poverty indicators have deteriorated. Employment on estates has halved and, with the exception of oil palm, there has been disinvestment in the estate sector.

Smallholder production of tree crops and food for the local market has been strong in recent years, but this is due mainly to the depreciation of the kina since the mid-1990s. This was not part of the ASP, and the DPL spoke defensively of the hard kina strategy, which prevented earlier adjustment. The balance-of-payments support effect of the loans provided immediate fiscal benefits during a crisis period; however, it may also have supported the delay in the downward adjustment of the overvalued currency. While the exchange rate is now more favorable, interest rates are still high and access to credit for all types of rural enterprise is poor. Unresolved factors important to the sector but outside the scope of the ASP are the deteriorating rural infrastructure and the law and order situation, as well as major land tenure constraints. In the absence of improvements in these areas and a favorable and stable macroenvironment, the use of sector-specific measures will be ineffective.

Most inadequacies of the ASP stem from design. The design was not preceded by a detailed sector study, and participatory approaches with stakeholders were not employed. The ASP bore striking similarities to other South Pacific program loans processed during the same period. It lacked major reform and was not carefully tailored to the needs of the sector. All the evidence pointed to low absorptive and implementation capacity, but this was a big loan disbursed in a short time. Genuine reform would need to be attempted over a much longer period and involve more policy dialogue. In the political environment of PNG, policies that are politically unpopular are particularly liable to reversal unless genuine commitment on the part of the Government can be obtained.

Notwithstanding such policy and design weaknesses, the ASP did provide needed support to the agriculture and rural development PIP during a period of financial crisis. Implementation of development programs and projects, many of which were externally

supported, would have been adversely affected without adequate government counterpart funding, which was financed by the ASP. Also, balance of payments support, though not a formal stated ASP objective, assumed significant importance due to the depth and duration of the financial crisis wrought by the Bougainville civil disorder.

Subsequent ADB assistance to the sector has benefited from the experience of the ASP. The ongoing 1998 Smallholder Support Services Pilot Project is addressing the question of decentralization and is trying innovative approaches to extension. The Microfinance and Employment Project approved in 2000 may also more effectively address the issue of rural credit, which has proved intractable so far. Following experience with this project, the broader issue of rural financial services should be revisited.

A question of great importance to the sector is the level of industry support services that is sustainable and can be used effectively. There are examples of large-scale, but unsustainable access to assistance, leading support service corporations to expand too quickly and to subsequently take painful corrective action. Government assistance to corporations has been especially unpredictable and the high level of industry contributions for some crops may not be sustainable. Answering this question would require the collaboration of the Government, industries, and aid agencies, but a successful resolution could reduce the level of instability and inefficiency in service delivery. In the long term, the resolution should be facilitated by DAL's policy division, but capacity there is limited and substantial institutional strengthening will be required.

Overall, the ASP is rated as partly successful.

I. BACKGROUND

A. Rationale

1. In 1988, the Government of Papua New Guinea (PNG) was increasingly concerned with rising unemployment, falling per capita incomes, and slow and unbalanced economic growth. It tried to intensify activities in agriculture since this sector offered the highest potential for broad-based growth over the medium term. Strengthening existing agricultural activities, especially in the leading tree crops subsector, and promoting increased export production in forestry, fisheries, and horticulture became significant aspects of the Government's strategy. During that time, however, agriculture was affected by structural constraints that included inadequate infrastructure, weak support services, high wages, an overvalued currency, land tenure difficulties, and a narrow capital base in most production holdings.

B. Formulation

2. In 1989, the Government approached the Asian Development Bank (ADB) regarding support for this strategy. To address the prevailing constraints, an agriculture sector program (ASP) was formulated to provide (i) incentives to the private sector for increased production and marketing, (ii) a macroeconomic environment more conducive to growth and sector change, (iii) support for the public investment program (PIP), (iv) required infrastructure and additional production capacity, and (v) an institutional framework to meet the challenges of a growing and diversifying sector. At the same time, a more wide-ranging program of stabilization and structural adjustment was prepared for support by the World Bank (WB) through a structural adjustment program (SAP), the European Union (EU) through a structural adjustment grant, and complementary assistance from the Japanese and Australian governments.

C. Objectives and Scope at Appraisal

3. The major objective was to support the Government's medium-term development program for the agriculture sector for 1990-1994. By making agriculture more dynamic, the Government expected to achieve more balanced growth in the long run, create employment opportunities for the growing labor force, expand rural development, improve income levels and income distribution as well as generate increased foreign exchange earnings. The ASP focused on the tree crops sector and comprised a range of policy reforms, institutional measures, and financial support for the PIP for agriculture, fisheries, forestry, the Agriculture Bank of PNG (ABPNG), and rural roads. The Government's program focused on private sector initiatives specifically for smallholders, who accounted for about 70 percent of total cash crop production, and emphasized increases in production through improvements in productivity, rehabilitation of existing production ventures, reduction in operating costs, diversification and intensification of production systems, and provision of basic infrastructure and supportive policy incentives. The ASP policy matrix is in Appendix 1.

D. Financing Arrangements

4. On 12 December 1989, the Board approved two loans in the amount of SDR43.8 million ($56 million equivalent) from ADB's Special Funds resources and $24 million from the ordinary capital resources to support the Government's program. The loans became effective on 22 December 1989 and were disbursed in two equal tranches. The Overseas Economic

Cooperation Fund of Japan cofinanced the ASP with a loan of $20 million equivalent, which was also to be released in two equal tranches. Together with the loans, ADB provided four technical assistance (TA) grants totaling $1.12 million to help the Government design and implement the various policy and institutional measures in the ASP. The loans were to be utilized over a period of 24 months from the date of loan effectiveness, while reimbursements of imports made up to 18 months prior to loan effectiveness were allowed.

E. Program Completion Report

5. The program completion report (PCR) was completed in June 1996. It considered the ASP as partly successful. The PCR found that agreed upon policy reforms of the ASP had been introduced but that attaining the objectives of the ASP had limited success. This was attributed to deficiencies in the program design; lack of local ownership and commitment; closure of the Bougainville mine, which reduced government funds allocated to agriculture; and a weak political climate. The ASP was found to be too broad and too ambitious, and its impact depended on the impact of WB's SAP,[1] which in itself did not have a lasting impact and was rated unsuccessful by WB. The PCR, however, noted that the Government was successful in meeting the conditions of the second tranche. Moreover, the ASP contributed substantially to the effort of a group of external agencies that mobilized large amounts of financial assistance to help the Government in alleviating the financial crisis at that time.

F. Postevaluation

6. The institutional arrangements for the agriculture sector and macroeconomic policies have undergone major changes since the completion of the loans and the PCR. Postevaluation has been timed to allow the full effect of the ASP reforms to be felt and focused on the relevance, sequencing, and achievement of reforms; their impact on increasing agricultural production and incomes; improving institutional capacity of support services; and the sustainability of positive achievements. Particular attention has been paid to the contribution of the ASP to poverty reduction and institutional development within the sector.

7. An Operations Evaluation Mission visited PNG from 30 January to 9 February 2001 to conduct a postprogram evaluation of the ASP. The Mission held discussions with relevant government ministries, agencies, and corporations; private sector enterprises; and smallholder farm representatives. The Mission also met with other external aid agencies engaged in PNG's agriculture sector.

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[1] The $150 million WB SAP was designed after approval of ADB's program loans, with the preparatory work being done by WB's Country Economic Mission in November 1989. ADB's ASP did not constitute a logical part of the whole externally supported SAP, as it did not take into account the deterioration in government finances and the worsening macroeconomic situation.

II. IMPLEMENTATION PERFORMANCE

A. Effectiveness of Design

8. When the ASP was designed, PNG was experiencing serious macroeconomic and budget difficulties and the main agricultural industries were suffering from record low prices. Design was carried out in an atmosphere of urgency, especially with respect to balance-of-payment support objectives, with a desire for rapid loan effectiveness and disbursement. No program preparatory TA was provided to help in the design process, and ADB had not conducted a detailed sector review. While WB had carried out a sector review in 1988, its findings were not fully reflected in program design. A Fact-Finding Mission was sent to evaluate economic conditions in the country and to hold dialogue with relevant authorities on policy, institutional, and investment reforms required to support the ASP. The policy dialogue between ADB and PNG authorities led to the drafting of a development policy letter (DPL) in November 1989. The DPL outlined the Government's proposal for ADB support to carry out structural adjustments and development in the sector. The ASP bears a striking resemblance to other program loans processed at the same time for other South Pacific countries.

9. The requirements for the release of the first tranche included nine taxation incentive measures, all of which had been in place for some years. Removing subsidies on planting material, eliminating export taxes, and reducing tariffs on major agricultural inputs from 8.5 percent to 5 percent were also required. These were based on the conventional wisdom of the time to increase resource use efficiency through removal of price distortions, rather than detailed consideration of the needs and their financial and economic impacts on the agriculture sector. Conditionalities were often limited to the program period of two years with consequent limitations on their long-term impact. Also required was restricting government support to price stabilization funds to the commitments already made at the time of appraisal, though funding received under the EU's Stabex instrument for stabilizing commodity prices was not to be counted as government contribution. While policy dialogue on this question took place with the central Government agencies, no effective consultation occurred with the affected industries. This requirement had been strongly opposed by industry from the time of program design.

10. For the second tranche, required policy changes included revising commodity price support formulas for coffee, cocoa, coconut, and oil palm with the aim of making the funds self-financing; liberalizing investment laws; and streamlining procedures for implementing public works. Tariffs on agricultural inputs were to be eliminated. In addition, measures to strengthen the institutions serving agriculture were required, specifically extension, research, quarantine services, training, planning, marketing, and credit. Tranche release conditions for many of these reforms were to be determined by findings and agreed-upon recommendations of the TAs accompanying the loans. Other conditions were again based on conventional wisdom rather than detailed evaluation and reflected ongoing and planned activities of the Government.

11. Four TAs were provided in parallel with the loans. They were to address the issues of commodity price stabilization, agricultural taxation, credit, and program implementation and farm management. The price stabilization and credit TAs were fully linked and the farm management TA partly linked to the conditionalities for the second tranche release. The taxation TA related mainly to conditions for release of the first tranche. Ideally all TAs should have been completed before the program design was finalized, or soon after first tranche release. However, three TAs were completed late and one TA was not completed before the final disbursement.

12. A number of other matters were referred to in the DPL. These included wage policy, exchange rate policy, land acquisition procedures, the design and management of projects at provincial level, export promotion, and the macroeconomic environment. While many of these issues constituted major sector constraints, they were not specifically referred to in the loan covenants, nor was any assistance provided to support endeavors in these areas. Other issues important to the achievement of ASP goals, but which received no attention in either the DPL or loan documentation, included rural infrastructure, law and order, and macroeconomic policy consistency.

13. The rationale for the amount of the loans was not clearly shown in the report and recommendation of the President (RRP) and not well supported in terms of linking the loan amount to the structural adjustment costs. Measures that would lead to adjustment costs included removing export taxes and some tariffs, removing subsidies on planting material, and revising price stabilization mechanisms. The revenue foregone from taxes on agricultural exports in 1990 and 1991 would have been about K5 million per year ($5.5 million). The revenue loss from dutiable agricultural imports at a rate of 8.5 percent in 1989 was K2 million. The revenue loss from tax changes was therefore about K7 million ($7.35 million at the 1990 exchange rate) per year or about $15 million for the two-year utilization period. The removal of price support had potential to cause major adjustment by farmers, but the extent would be difficult to forecast since it would depend on the movement of product prices. No compensatory measures were included in the design, and growers of tree crops had limited opportunity for short-term adjustment.

14. The local currency generated from converting the loan proceeds was to be used to finance government programs related to the purpose of the loans. These comprised ongoing PIPs in agriculture and related sectors. No changes were made to any projects as a result of their inclusion in ASP activities or to priorities. The purpose was to ensure continued funding of these activities in a situation of budgetary stringency. Many already received external support; three received support from ADB under project loans. About half the number of projects supported and the funds used were in agriculture; the rest were in forestry, fisheries, rural roads, and agricultural credit. In essence, the proceeds supported a two-year slice of all government development spending on the rural sector.

15. The amount of counterpart funds generated greatly exceeded the needs for activities closely linked to the purpose of the loans. Commenting on the 1988-1992 PIP, WB[2] said that the implementing institutions had poor absorptive and implementation capacity and that some projects had inadequate technical and management bases. Extensive and nonselective support for these projects would have necessarily entailed inefficient use of some resources. The three ADB-financed projects[3] have since been evaluated. Two were rated as generally successful, the other unsuccessful. The tying of proceeds to items classified as developmental may also have resulted in less funds being available for recurrent costs. The lack of funds for operating costs within the Department of Agriculture and Livestock (DAL) and inadequate road maintenance are examples of recurrent activities that may have had greater developmental and economic impact than capital spending. No observable indicators of success for these projects were specified in the RRP.

[2] World Bank. 1988. *Papua New Guinea Agricultural Assessment Review.*

[3] Loans 784(SF)/785-PNG: *West New Britain Smallholder Development Project*, for $29.9 million, approved on 14 August 1986, was rated generally successful; Loan 656-PNG(SF): *Cape Rodney Smallholder Development Project*, for $15 million, approved on 24 November 1983, was rated unsuccessful; and Loans 852/853(SF)-PNG: *East New Britain Smallholder Development Project*, for $10 million, approved on 3 November 1987, was rated as generally successful.

B. Policy Reform Measures

1. Policy Measures

a. Incentive Measures

16. This component of the ASP required the provision of a range of incentives to the agriculture sector to stimulate production and investment. It required retention during the ASP period of nine tax concessions for agricultural producers. Most were in force before the ASP and have been retained. These measures were of no value to smallholders who paid no income tax and of little value to estates whose rate of tax was low relative to other industries and for whom other constraints were more important. Suspension of the 2.5 percent export tax on agricultural commodities was also required and this suspension remains in force. This has had a direct positive impact on the incomes of both estates and smallholders.

17. Tariffs on major agricultural inputs were to be reduced from 8.5 percent to 5 percent (first tranche) and eliminated to meet second tranche conditions. This was done, but tariffs were reinstated at 10 percent and raised to 11 percent in 1994. Tariffs on major inputs were eliminated again in 1999, but replaced with an across-the-board value-added tax (VAT) on all agricultural and most nonagricultural items. This will impact more severely on smallholders than on estates. In addition to the VAT, a number of items important to the smallholder sector and the poor in general retain high tariffs (40 percent) to protect local manufacturing industries. The reversal of the tariff reductions was partly a response to pressure from other aid agencies for broad-based fiscal tightening.

b. Stabilization Funds and Commodity Pricing

18. Policy requirements in this area were to stop Government funding of price stabilization funds, other than funds received under EU's Stabex loans and grants, pending revision of management systems to make the funds self-financing. The revision was to be assisted by an ADB-financed study that was completed in December 1990. Based on the findings of the study, agreement was reached in early 1992 on a new management system to achieve the self-financing objective. The new system involved limiting government financing of the funds to K120 million (about $120 million) over five years.

19. Government support to the funds had increased to K40 million before the revision of management systems, but the additional K25 million provided during 1990 was more than offset by the K34.5 million received by the Government under the EU Stabex funding in that year, as allowed under the conditionality. Following a change of Government in 1992, the basis of price intervention was changed to straight guaranteed prices. Government budgetary support totaled about K275 million from 1989 to 1994. This amount, and the potentially unsustainable basis of the support, amounted to a breach of conditionality. The industries made repayments from 1995 through 1999, reducing the net remaining debt to the Government to K51 million, excluding the K138 million that had been provided through the EU Stabex. The Government did not charge any interest on the outstanding obligations over this period, which was also a technical noncompliance of the agreed-upon reforms to manage the stabilization schemes.

20. Commodity stabilization schemes have been effectively abandoned since 1995 as higher export prices have generally prevailed. A revision of the pricing formula for smallholder oil palm fruit in 1996 significantly reduced the volatility of fruit prices and therefore the need for

stabilization for that crop. An industry-financed stabilization fund continues only for coffee, but as of 2000 had resources of only about K24 million, which is inadequate to stabilize coffee prices. The significant, but far from complete, repayments made by the industries; the belated achievement of the main objective of the covenant; and favorable impact on the achievement of some of the ASP goals somewhat mitigated this serious breach of the covenant. The design did not include any compensatory policies, nor did it take into account the political popularity of the schemes which, given the political instability of PNG, indicated a high risk of reversion or noncompliance.

c. Investment Laws

21. This component required liberalizing the regulations concerning overseas staff and streamlining the National Investment and Development Authority regulations. The system for issuing licenses and work permits to overseas contract staff was liberalized during the ASP period and further liberalized thereafter. There is still a list of prohibited business activities and jobs that may not be undertaken by foreigners, but restrictions have been substantially reduced. Employers of expatriate staff are required to make commitments to localization and training or pay an additional 2 percent payroll tax.

22. The National Investment and Development Authority was replaced by the Investment Promotion Authority (IPA) in 1992. The IPA Act emphasizes the promotion of investment and IPA is able to provide certification of direct foreign investments in PNG. IPA also administers several business laws and is moving toward the one-stop shop concept envisaged prior to ASP completion. IPA has strong private sector representation. For agricultural investments, IPA has expressed concerns about poor coordination linkages with DAL and lack of information from DAL on enterprise priorities and opportunities in the sector. While the institutional environment for foreign investment has improved, investment by foreign companies in agriculture has been limited to expansion of oil palm and, to a lesser extent, rubber by established companies already operating in PNG. Other factors such as (i) high cost and inadequate availability of skilled labor and technicians, (ii) serious law and order problems, (iii) deteriorating infrastructure, (iv) governance issues, (v) weak political continuity, and (vi) inconsistent long-term macroeconomic policy have effectively deterred new foreign investors.

2. Institutional Measures

a. Strengthening Extension

23. The aim of this measure was to develop industry corporations for coffee, cocoa, copra (dried coconut), and oil palm and, through them, independent and accountable extension services for these crops,[4] based generally on the perceived success of the Coffee Development Agency. The industry corporations were to play a coordination and control role over research, extension, and other services to the industries. The formation of corporations with the mandate to undertake extension and other activities was based on the long-standing and almost universal dissatisfaction with extension services provided by DAL and the various provincial departments of primary industry (DPIs). Working arrangements had not been developed to accommodate the decentralization legislation and both organizations were hampered by the budgetary imbalance between the cost of salaries and funds for operations,[5] especially

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[4] Including improved crop management, area-specific fertilizer recommendations, and improved pest control.

[5] The Aide Memoire of ADB's Reconnaissance Mission for the Second Agricultural Research and Extension Project noted that in 1996, staff costs accounted for 88 percent of the budget of DAL's Agriculture Research Division.

transport. It was also intended that the industries would contribute to the cost of running extension services and that industry representation would ensure accountability, relevance, and effectiveness of activities.

24. The coffee and oil palm industry corporations were established in 1991 and their constitutions were an improvement on previous legislation in that they made more explicit provision for board members to be selected by the various sectors of the industry. Previous industry legislation had given the responsible minister latitude to appoint and dismiss board members and this power had reportedly been abused. Legislation drawn up for a cocoa and coconut industry corporation has still not been enacted. However, a joint cocoa-coconut extension agency commenced operations in 1997 and was incorporated in 1998, belatedly complying with part of the ASP conditionality.

25. The programs for coffee have addressed issues relating to the establishment of varieties resistant to rust; seedling production; rehabilitation of coffee gardens; processing, quality, and formation of marketing groups; credit; and freight subsidies. The level of activity has varied widely as a result of changing access to external support and inconsistent government funding. There has been no government funding of coffee extension services over the past two years. Growers contribute to funds for such services and other costs of the Coffee Industry Corporation (CIC) through a levy of K0.08 per kilogram of green bean. The current ratio of extension workers (EWs) to growers is about 1:4,000, which is inadequate to provide comprehensive service. In response to this, CIC is working increasingly with provincial governments and nongovernment organizations. Coverage is far from complete and extension services to minor coffee growing areas are marginal at best. Total coffee production showed no benefit from the changed extension arrangements following the formation of the corporation (Appendix 2, Table A2.1). Performance has been strong over the past few years, but this is due to higher prices in kina terms.

26. The Oil Palm Industry Corporation (OPIC) took over responsibility for smallholder extension on five donor-financed oil palm schemes in 1992. The extension operations of OPIC are financed by a levy of K3.5 per ton fresh fruit bunch of smallholder production, which is matched by the milling companies. OPIC still relies on external funding of its small head office. Extension efforts have had some success in the collection of loose fruit by women's groups and in the use of fertilizer. Total smallholder production has increased as areas have increased. However, average smallholder yields remain well below potential and, due primarily to crop husbandry practices, show no upward trend (Appendix 2, Table A2.2). OPIC has also assumed responsibility for maintaining roads in smallholder growing areas. About 125 staff are employed to serve the 10,000 or so grower households, for an EW-to-farmer ratio of 1:80, which is enough to provide a high level of service. The financial contributions of growers are high, but were democratically decided. This suggests strong support for the activity and its effectiveness.

27. The Cocoa and Coconut Extension Agency (CCEA) was incorporated in 1996 and levies collected from both industries provide funds sufficient to meet the management costs at headquarters and in regions. The Government has also provided funds through the PIP. CCEA has a field staff of about 70, 60 of whom are on Bougainville working on an externally funded rehabilitation program. PNG has about 100,000 cocoa growers and over 200,000 coconut growers. CCEA is obviously unable to reach most of the target group using its own staff, other than on Bougainville, and has collaborated with the provinces to overcome this difficulty by using provincial extension officers to extend its reach. The resources available are small compared with the task, and production statistics do not indicate any impact, especially on cocoa where total production has fallen and estate production has halved since 1990 (Appendix

2, Tables A2.3 and A2.4). Copra producers are unfairly treated—they make a greater contribution to the costs of CCEA, but extension programs concentrate on cocoa.

28. The Copra Marketing Board has continually maintained its monopoly over copra prices received by growers, and has precluded any private sector investment in copra processing. This is a significant oversight by the ASP policy reform program.

29. The structure, functions, coverage, and funding of the services vary considerably and within corporations there have been big changes over time (Appendix 2, Tables A2.5-A2.8). Access to external support has been variable and government support highly inconsistent. While constitutions of the corporations make ample provision for representation by stakeholders, the responsibilities of representatives have not always been effectively discharged and, in practice, accountability and transparency are inadequate. For example, for the past few years several corporations have not produced annual reports as audited financial statements. There has been little innovation in extension methodology. The services provided are similar to those provided in the past by DAL and the DPIs and are largely provided by the same people. Deficiencies in the old system exist in the new. Women, who perform the majority of smallholder food crop and livestock work, receive little attention. EWs are inadequately trained, their messages are not always relevant to the situation of the smallholder, and difficulties arising from tribal differences between EWs and farmers continue to arise. Most PNG agricultural specialists concede that the corporatized extension services are more effective than the moribund DAL/DPI services that they replaced. However, this is largely because the former are better funded.

30. The ASP required support for DAL to strengthen extension services for food crops and minor crops, including rubber and livestock. During the loan utilization period, several relevant PIP projects were financed by counterpart funds that included extension components. Currently, the government-owned Fresh Produce Development Company and the Livestock Development Authority also assist the production and marketing of food to meet domestic demand, but they have limited coverage. However, these extension activities have not been substantively strengthened. Old problems of inadequate operating funds and inadequate adjustment to decentralization continue. The establishment of four DAL regional organizations in 1999 to link with provinces was an improvement, but lack of operating funds also hampers this initiative. There are currently no effective nationwide extension services for these subsectors. It is reported that the volume of local vegetables marketed has recently increased following the depreciation of the kina and production of subsistence crops has apparently kept pace with population growth, but production of spice crops and livestock has not grown in line with ASP expectations.

b. Strengthening Research and Technical Services

31. The aims of these measures were to (i) maintain and strengthen the semiautonomous research bodies serving the coffee, cocoa, coconut, and oil palm industries; (ii) improve the research effort of DAL by financing research liaison officers, establishing an information unit, and improving manpower levels and facilities; and (iii) improve specific technical services including quarantine, plant and animal health, and export quality control.

32. The tree crop research institutions existed before the ASP and the Coffee Research Institute was brought under the control of CIC. Government funding continued during the utilization period and later under the ADB-financed Agricultural Research and Extension Project, but has been inconsistent recently. Growers contribute substantially to their funding (Appendix 2, Tables A2.6-A2.8). The research institutions were criticized by PNG agricultural specialists for

overconcentrating on issues that affect estates rather than smallholders, but this has been corrected somewhat in recent years. The cocoa, coconut, and coffee institutes have also been criticized for the premature release of promising varieties that developed serious problems under field conditions and resulted in losses to farmers. The autonomous structures have not eliminated management difficulties, notably in the Coffee Research Institute. Inadequate links with growers and extension services have limited the adoption of generated technology.

33. Provision was made in the 1992 budget for DAL to expand its research into food and minor crops. These activities subsequently received substantial support from ADB, the Australian Agency for International Development, and other aid agencies. This culminated in 1997 in the establishment of the National Agricultural Research Institute (NARI), a government-owned corporation with the mandate to conduct applied research and provide technical services related to food crops, minor crops, livestock, and resource management. Corporatizing these activities was not a requirement under the ASP. Parallel developments occurred with quarantine and specialist technical services. Some strengthening occurred with external support within the DAL structure. Then in 1997 the National Agricultural Quarantine and Inspection Authority (NAQIA), a government-owned corporation, was established also with assistance from the Australian Agency for International Development.

34. Both NARI and NAQIA were to be funded mainly by the Government and aid agencies. However, government funding was withdrawn from 1999 and there were moves to return their functions to DAL. It is still too early to assess their effectiveness, but NARI lacks core funding and faces financial uncertainty. NAQIA is trying to create a revenue base by raising fees for service, but this has elicited strong complaint from industry. Although the Government is represented on both boards, communication and coordination with the Government remain poor.

c. Planning and Marketing

35. The ASP required the strengthening of agricultural policy development capabilities within DAL and the DAL marketing unit. A TA was associated with the loans to help achieve these objectives. With additional assistance from other sources, these activities were initially strengthened. Market and management information systems were installed, but are no longer operational. Along with the rest of DAL, these functions have suffered from loss of experienced staff and difficulty in replacing them within the financial and recruitment restrictions affecting DAL. Capacity to develop policies is weak in DAL and this function has been partly delegated to industry corporations. This is not coincidental. The industry corporations are able to offer salaries and working conditions superior to those available within DAL and have recruited some of the more experienced and qualified economists from DAL. To some extent the economists have taken their responsibilities with them. DAL has little involvement with major policy issues affecting the sector; the central Government agencies have taken over these functions.

d. Credit

36. ADB financed a rural credit study under one of the TAs linked to the loans (paras. 44-45). It was to assess demand for credit, formulate policy, and propose institutional reforms necessary to expand and improve rural financial services. The recommendations of the study were considered by the Government and ADB, but most of them were not adopted. As

recommended, a further TA was subsequently provided for an in-depth study of ABPNG.[6] This TA produced a plan to restore ABPNG to viability, but political interference and lack of support was evident even during the execution of the TA. While some progress was made in reducing interest rate subsidies and cutting staff numbers, the major reforms required were not made and ABPNG remains nonviable. The future of the renamed Rural Development Bank is now clouded by its merger with the government-owned PNG Banking Corporation and the announced intention to privatize them. Small-scale, ad hoc credit schemes have proliferated, but they have generally proved unsustainable and their coverage has been limited. Smallholders have little or no access to formal credit and little encouragement to save. Lack of credit combined with lack of equity remains a serious obstacle to achieving the ASP goals, but long experience with the various government-owned development banks suggests that any institution relying on government funding and political support will be seriously handicapped. The recent ADB-financed microfinance project[7] may have a better chance of success.

C. Program Management

1. Disbursement

37. The Executing Agencies were the Bank of PNG and the Department of Finance and Planning. Release of the first tranche was delayed until April 1990 as a result of the Borrower's difficulties in producing statements of expenditure acceptable to ADB. The PCR states that this might have been avoided if the program implementation consultant provided under one of the four TAs had been recruited earlier. Given that the TA and loan agreements were signed on the same day, this problem was inevitable.

38. The second tranche was released in December 1991, about one year late. According to the Board paper, the release was delayed until the cocoa and coconut industry corporation was formed. In fact, this corporation has still not been formed, though at the time of the release of the second tranche, legislation had been drafted and Cabinet approval obtained. CCEA was eventually established in 1996 and operates without the benefit of an overall industry organization. Given the vagaries of parliamentary processes, delaying release on this account may have been warranted.

39. However, other factors may have justified further delay. At that stage, a further K30 million had been provided to the stabilization funds during 1991 and it is not clear that the management arrangements agreed to following the TA had been followed. Shortly afterwards, policy in this area reversed direction, due largely to a continued decline of commodity prices. The credit TA was completed, but almost none of its recommendations were adopted. Any leverage ADB may have had was lost upon the release of the second tranche and this contributed to lack of effectiveness of the TAs.

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[6] TA 1661-PNG: *Institutional Strengthening of Agricultural Bank of Papua New Guinea,* for $582,000, approved on 15 January 1992.

[7] Loan 1768-PNG(SF): *Microfinance and Employment Project,* for $9.595 million, approved on 19 October 2000.

2. Performance of ADB

40. ADB sent eight missions to PNG between the time of loan effectiveness and the release of the second tranche. The PCR states that “the Bank did not display sufficient sensitivity to local systems and procedures or an understanding of the requirements of the policy matrix as they related to local institutions.” Certainly the failure to create the combined cocoa and coconut industry corporation seems to have received greater attention than its importance warranted, while the price stabilization issue and management of the other TAs received less. Given the continued deterioration of export prices during the program period, additional policy dialogue, had it occurred, may have justified flexibility for the price stabilization covenants. The wide scope of the other activities required or supported by the ASP made effective supervision difficult, and this design fault led to inadequate attention in this area. No follow-up missions were sent after the release of the second tranche on 24 December 1991 until loan closing on 30 June 1992.

3. Effectiveness of Technical Assistance

41. ADB provided four TA grants amounting to $1.12 million to assist the Government in implementing the policy reforms and institutional measures included in the ASP (Appendix 3). A number of key second tranche reforms depended highly on the timing as well as the findings and recommendations of three of the four TAs. All TAs are rated as only partly successful.

a. TA 1237-PNG: Review of Commodity Stabilization Fund Schemes [8]

42. The study was carried out from July 1990 to February 1991 and reviewed the operations and mechanisms of commodity pricing and stabilization in PNG. The terms of reference (TORs) were relevant and comprehensive and their requirements were met. While there appeared to be substantial acceptance of the recommendations by the Government, events overtook the study even before it was completed. The Government had provided the industry with funds in excess of both its commitment under the loan agreement and the recommendations of the TA. Following a change of Government, five-year price guarantees for the main export crops were introduced from 1992 to 1997. This change was contrary to anything suggested in the TA and led to a major expansion in government funding.

b. TA 1238-PNG: Review of Agricultural Taxation and Tariff Systems[9]

43. The study reviewed the country’s existing taxation and tariff systems, particularly as they applied to agriculture, and recommended tax and tariff measures to stimulate investment in agriculture. It was carried out from July 1990 to April 1991. Reporting and consultation requirements were met and documented. Major findings were that smallholders did not pay income tax and that, overall, the tax system was more favorable to agriculture than to other sectors. However, the protective tariffs provided to PNG manufacturers impacted negatively on the sector. It was found that some of the policy reforms required in the loan covenants would not be effective in achieving the objectives of the ASP, especially as they related to smallholders. A number of recommendations were made and PNG officials involved in the tripartite meetings during the TA concurred with these recommendations. However, while VAT was introduced in

[8] TA 1237-PNG: *Review of Commodity Stabilization Fund Schemes,* for $160,000, approved on 12 December 1989.
[9] TA 1238-PNG: *Review of Agricultural Taxation and Tariff Systems,* for $120,000, approved on 12 December 1989.

1999 as part of a WB structural adjustment loan to broaden the indirect tax base, other TA recommendations were not adopted.

c. TA 1239-PNG: Agricultural Credit and Rural Savings Study[10]

44. The objectives were to assess the demand for credit and formulate policy and institutional reforms that were necessary to expand and improve rural financial services, particularly those needed by the smallholders; and the scope for rural savings mobilization. The study was carried out from November 1990 to June 1991. The TORs indicated an expectation of quantification of credit requirements, savings potential, and detailed proposals for policy and institutional change to achieve the stated goals. The TORs were comprehensive but may have been unrealistically ambitious. Input from PNG stakeholders and ADB was to be provided through two seminars at key stages of the TA. The main findings were that smallholders had negligible access to credit, but that risks and costs were high in agricultural lending in PNG.

45. Recommendations were presented in a lengthy report, but the TORs were not fully met. Significant omissions in the output were (i) coverage of informal and microcredit mechanisms, though these were required; and (ii) a detailed financial analysis of ABPNG. In regard to other recommendations, the quantification requirements of the TORs were not met and the proposals generally lacked the detail needed for firm decisions to be made. PNG stakeholders and ADB had ample opportunity to influence the TA. Neither the review mission that visited PNG prior to the release of the second tranche nor the PCR expressed any dissatisfaction with the execution of the TA, although interdepartmental review of the TA report was critical. The outcome is that, with the exception of the provision of a second rural finance TA in 1992 (footnote 6), the recommendations of the TA have been ignored. The Government has taken little other action to address the issue of rural financial services and the situation has continued to deteriorate. The task of rebuilding or reforming the sector is now more challenging than at the time of the TA.

d. TA 1240-PNG: Agriculture Sector Program Implementation and Strengthening DAL's Farm Management Information System[11]

46. The objectives were to give the Government advice in implementing the ASP and strengthen the collection and use of farm data. Services were to be provided by a program implementation economist (PIE) and a farm management economist (FME). No record of the contribution of the PIE was found and the FME was fielded under a contract that did not include the PIE. The FME served from November 1990 to December 1991. His report indicates that considerable efforts were made in developing database systems, training staff, and conducting surveys, including some one-off surveys to address issues that were important in terms of current departmental decisions. Market and management information systems were installed and a comprehensive farm budgeting manual was prepared. However, neither were maintained after the TA was completed. Recommendations for adequate long-term staffing for the farm management and statistics functions were not implemented. The host institution was further weakened by loss of senior staff and little of lasting benefit remains. The goals were ambitious, given the level of assistance for such a short time to a weak organization.

47. The timing of all TAs was unfortunate in that the results could not be fully considered before the release of the second tranche. This reduced opportunities for ADB to press for

[10] TA 1239-PNG: *Agricultural Credit and Rural Savings Study,* for $340,000, approved on 12 December 1989.

[11] TA 1240-PNG: *Agriculture Sector Program Implementation and Strengthening DAL's Farm Management Information System,* for $500,000, approved on 12 December 1989.

implementation of recommendations. The program implementation TA, to be effective, should have been in place at the time of loan signing, since it was during the early stages of effectiveness that most administrative problems arose. While the TORs were relevant and management committees provided opportunity for the Government, ADB, and other stakeholders to have input during execution, committees were not effective in assisting consultants to produce outputs that could and would be implemented. More intensive supervision during review missions could have led to better outcomes.

III. PROGRAM RESULTS

A. Performance Indicators

48. The specification of observable indicators of performance was generally good, although indicators on institutional strengthening were omitted. Indicators listed in the RRP included reduction in costs, and increased profitability, yields, and production from smallholders; increased use of purchased inputs by smallholders; increased private sector investment in agriculture; and greater land mobilization. While no comprehensive data exist, it is clear that most of these benefits have not been realized. Incomes of smallholders fell during and after the utilization period, but recently increased in kina terms as a result of the depreciation of the kina. Use of some inputs has increased. However, there is no evidence of overall improvements in productivity or production, investment, or land mobilization. There have been disinvestment and loss of jobs on coffee, cocoa, and coconut estates and downstream processing. The RRP included forecasts of increases in tree crop production following implementation of the ASP. Forecasts of such short-term improvements were optimistic and were not realized, even after making allowance for the loss of cocoa and copra production from Bougainville (Appendix 2, Table A2.9).

49. There is no direct measure of farm incomes, but cash incomes are linked to export earnings from tree crops. Nominal and real export earnings are presented in Appendix 2, Table A2.10. For palm oil, consistent growth occurred, based on increasing production although much of this growth is attributed to oil palm estates. For the other main crops, there were no overall gains throughout the early 1990s, but general increases in earnings in both real and nominal terms from 1995 onward. This is closely related to the value of the kina, which was above parity with the US dollar until 1994, but fell to $0.39 by 1999 and now trades at about $0.30 (Appendix 2, Figure A2). Increased sales of local food crops are also reported, based on enhanced competitiveness following the depreciation of the kina, and this is supported by recent moderation in the volumes of rice imported.

B. Institutional Development

50. Corporatization of services to the sector began before the ASP and the ASP has assisted the extension of the process. The objectives of corporatization have been to avoid the organizational and management restrictions that apply in the government system, facilitate mobilization of non-government funds for these functions, and increase accountability. These objectives have been achieved to some extent. But none of the corporations has attained financial independence, and accountability remains an issue despite the inclusion of adequate control systems in their constitutions. Some mobilization of industry contributions to the cost of services has been achieved, but this has been at the expense of farmgate prices and, in the case of NAQIA, higher private sector trading costs. When funds are available, corporations have been able to attract and retain staff by offering attractive remuneration packages, often recruiting from the parent organization DAL. Most agree that they are more effective than the former organizations, but at higher cost. The services sector is now fragmented and competitive, and more effective coordination is required.

51. Corporatization has reduced government incentives to address the fundamental problems affecting national departments and provincial governments. The most serious is the imbalance that has developed between the cost of salaries and operating funds. Governments have enough money to pay salaries, but little to enable staff to do their jobs. Cutting-off of phones and power in offices is common and travel funds are inadequate. The solution, in the

face of continued budget constraints, must be in staff reductions. Retrenchment efforts so far have been largely unsuccessful, even when supported by aid agencies. This issue should have been addressed under the ASP. Functions that have not been corporatized are disadvantaged, and they include services aimed at the rural poor.

52. The facilitation of growth of the private sector was an objective of the ASP. However, factors other than those addressed in the ASP such as law and order, poor infrastructure, and macroeconomic and political instability are more important barriers to growth. The extensive corporatization may also have created a misleading impression of the role of the private sector. The fact that the Copra Marketing Board still has a legislated monopoly on copra trading in PNG, despite its financial difficulties, exemplifies the ambivalent attitude in official circles toward the private sector. Most service corporations still more closely resemble government agencies than profit-oriented businesses and they deal extensively among themselves and with the Government. When they look for revenue, they often go, not to a private client base, but to some other part of the Government in its many forms. In practice, they are still part of the government family.

C. Impact of Policies

53. Of the policy measures required under the ASP, most of the tax incentives had been in force for at least five years at the time of loan approval. They were not especially important to the private sector and were particularly irrelevant to smallholders. Clearly this element of the ASP had little impact on private sector investment. Export taxes had also been suspended prior to loan negotiations, but this suspension was important to grower returns and has remained in place. This has been a significant benefit to the sector and to the achievement of ASP goals. Interestingly, the relevant TA attached to the loans (footnote 9) recommended that export taxes not be abolished, but imposed or suspended according to the levels of export prices. This was similar to the arrangements in place before the ASP. The suspension of tariffs on agricultural inputs was doubly flawed in that high protective tariffs on some inputs important to the sector were not removed and that higher tariffs were reimposed immediately after the loan utilization period. No lasting benefit was achieved through this measure.

54. Price stabilization funding limits were in compliance with the ASP for 1990, but noncompliance occurred in 1991 and thereafter in respect to the high level of government support and the mechanism used. These measures taken in contravention of the ASP did, however, increase the incomes of the poor over the period 1992-1997 and thereby contributed to the objectives of the ASP. In the end, price stabilization was effectively abandoned for all industries but coffee, and a large part of the government advance has been repaid. The TA on this issue found that stabilization had made a valuable contribution to the industries and the economy, and this view is widely held in PNG. The issue remains relevant and reestablishment of price stabilization may be justified, provided the basic principle of self-financing stabilization is followed and management is competent.

55. The policy requirement to abolish subsidized sale of planting material was fiscally inconsequential[12] and may have been counterproductive by reducing incentives for farmers to use new genetic material developed on research stations. Corporatized research stations charge for all planting material distributed and this does not appear to be a serious issue. Requirements to revise investment laws and procedures were generally met, but have not been

[12] DAL generated K85,000 in 1990 and an estimated K43,000 in 1991 from the sale of planting material.

successful in attracting investment due to factors not addressed or beyond the scope of the ASP.

D. Counterpart Funds

56. The use of counterpart funds to support ongoing projects in agriculture and related sectors prevented a likely sharp curtailment of spending in the face of the deteriorating fiscal position of the Government. This in turn helped maintain capacity in the institutions involved in implementing these projects and the flow of benefits to the target group. However, the adoption of a relatively uncritical approach to the evaluation of the design and viability of these projects at a time of budget stringency was not warranted. The high priority given to capital expenditures could have aggravated the shortage of recurrent funds that may have been more important in achieving the ASP goals. The prime example is inadequate funding of road maintenance that had been identified as a constraint during program preparation.

E. Poverty

57. The ASP was also intended to reduce poverty among rural people. Time series data on poverty are not available, but a major study in 1999[13] found wide and growing inequalities in income and widespread poverty in rural areas, including among producers of cash crops. Poverty was closely linked to a lack of access to health services, education, and transport facilities. Malnutrition was widespread, especially among women and children. Energy intake was often inadequate and protein commonly so. No comparable earlier data are available, but the picture painted is hardly that of "primitive affluence" as described by early development economists.

58. Certain aspects of the ASP have adversely affected efforts to address the issue of rural poverty. Widespread corporatization of services has been accompanied by moves toward cost recovery. Thus, services have been directed toward those with the capacity to pay, and that will not usually be the poor. Similarly, corporations are under pressure to produce economic benefits and these will be obtained most easily in the most favored areas that are not where the poorest people are found. The process of corporatization has also bypassed the activities directed most specifically to the poor such as extension on subsistence crops, minor crops, and livestock.

F. Women in Development

59. PNG extension and research programs have traditionally not been strong in promoting the role and status of women. Corporatization of extension services has not led to increased attention to this issue, except for promoting women's groups harvesting loose oil palm fruit and some activities of the Fresh Produce Development Company. In regard to the remaining extension services operated by provincial governments with support from DAL, few initiatives have been taken to give increased attention to the needs of women. Although the recent policy to recruit additional women extension officers appears to be succeeding, no measures to address the needs of women were included in the design of the ASP and no impact has occurred.

[13] World Bank. *Papua New Guinea Poverty and Access to Public Services.* October 1999.

G. Environmental Impact

60. The DPL gave a commitment to "strengthening of the Environmental Unit within the Department of Environment and Conservation (to carry out impact assessments on projects throughout the country)." This has been effectively honored, primarily through significant external assistance starting in 1994. The ASP intended to make agricultural inputs more affordable by removing tariffs. This should have led to increased use of fertilizers and chemicals that may have had adverse environmental consequences. This measure was short-lived and therefore any impact would be similarly limited. It is doubtful that the ASP has significantly affected land use. The prominence of sustainable land use issues in NARI activities is positive for the environment and reflects growing recognition of the need to consider environmental issues.

H. Sustainability

61. Instability of policy linked to frequent changes of Government is a serious governance issue in PNG. It has affected policies covenanted in the ASP and is a continuing risk. The limited policy gains remaining from the ASP may be removed at any time. This risk is significant for policies that are unpopular and offer political advantage to those promising to reverse them. An example is the price stabilization issue. On the other hand, popular support has probably helped keep the suspension of the export tax in place.

62. The sustainability of the largely corporatized service organizations is also continuously under threat since they have not become financially independent and some have no chance of becoming so. While performance must improve their chances of maintaining support and levels of services, it provides no guarantee and government support can be withdrawn summarily and without reason, as occurred in 1999. Even the support provided through levies on industries is not assured unless the industry representatives continue voluntarily to support the allocation of part of the incomes of their industries to the corporations.

IV. KEY ISSUES FOR THE FUTURE

A. Scope of Assistance to the Sector

63. Many issues limit rural productivity and incomes, and the most important are not specifically agricultural. Road maintenance, law enforcement, macroeconomic stability, and governance are key. Without prior progress in these areas, attempts at direct intervention through narrowly defined agricultural projects will not succeed. Fixing those issues, even without specific agricultural interventions, would elicit a strong economic response. It is also notable that the most important benefit to farmers in the past 15 years has been the depreciation of the kina, which also increases the chances of agricultural investments succeeding. The previous hard kina policy probably contributed to the lack of success, for which other factors took an undeserved share of the blame. Assistance to the sector needs to include measures to deal with the full range of issues affecting it and be sequenced so that the specific measures are applied in an environment, in which they are not thwarted by external constraints and factors.

64. Services to the sector have been adversely affected by variability in availability of funds from the Government, aid agencies, and the industries. This has resulted in sharp and inefficient changes in the scope of services provided. Service programs should be planned on the basis of a realistic assessment of access to funds in the long run and emphasis should be on making existing spending more effective. Undisciplined expansion of project activities, even with external support, can also undermine recurrent funding and exacerbate shortages of skilled manpower. A gradual long-term approach to improvement of services is indicated.

B. Extension and Decentralization

65. Apart from the tree crops, there has been little change in extension activities that have long been known to be ineffective, disorganized as a result of decentralization, and insufficiently attentive to women and the poor. The problems arising from decentralization, which occurred in 1977, were not addressed in the ASP or elsewhere. Nor was the imbalance between budget allocations for salaries and other costs. High costs continue to be incurred on provincial and district extension staff without commensurate benefits to the target group. The issue of redundant field staff in DAL and DPIs has so far proved intractable. Until it is addressed, PNG will be saddled with a high cost and ineffective general extension service. The effectiveness of the corporatized extension services has not been rigorously assessed, although it is arguable on the basis of low growth in production or yields of most crops, that they are ineffective. The ongoing ADB-assisted Smallholder Support Services Pilot Project[14] is attempting to address some of these issues in an innovative way. Its outcome should be analyzed closely and further assistance to the sector should address the wider issues in extension.

[14] Loan 1652-PNG: *Smallholder Support Services Pilot Project*, for $7.6 million, approved on 10 December 1998.

V. CONCLUSIONS

A. Overall Assessment

66. **Relevance.** The overall goal of the ASP was to diversify the economy by promoting agriculture, with emphasis on export crops and smallholders. This was consistent with the priorities of both the Borrower and ADB. However, the measures included were generally not well tailored to the needs of the sector, did not represent significant change, and few were closely linked to the achievement of the desired outcomes.

67. **Efficacy.** Most reform measures were technically implemented, but since many predated the ASP by at least five years, they did not represent major achievement. The issues addressed were not the most serious constraints and a number of measures were irrelevant to smallholders. Counterpart funds were targeted to support ongoing public investments in agriculture and related sectors. However, more efforts were needed to address deficiencies in the PIP, which were well known at the time. The extensive and nonselective support for development activities through counterpart funds may have negatively impacted on funding for important recurrent activities including road maintenance. The outputs of the PIP could have been achieved with smaller ASP loans.

68. **Efficiency and Impact.** The goal of increasing smallholder production and incomes has not been achieved. Generally, the coffee, cocoa, and coconut estate sectors have disinvested and estate employment has fallen. The depreciation of the kina has led to improvements in incomes in more recent years, but the DPL spoke defensively of the hard kina strategy. The foreign exchange provided under the ASP incidentally helped the Government to defend the kina longer than would otherwise have been the case. The ASP introduced few changes to agricultural policies or programs.

69. **Sustainability.** Many ASP conditionalities applied only to the two-year ASP period. One major reform, elimination of tariffs on major agricultural inputs, was reversed soon after the release of the second tranche. Service corporations established have been subject to wide variations in funding and other threats to their continued operation. Accountability in corporations has been unsatisfactory despite sound provisions in their constitutions, and that fact may affect long-term support for them. Inadequate maintenance of rural roads and law enforcement threaten the sustainability of commercial agriculture, but the significant depreciation of the kina provides a better basis for sustained competitive farming.

70. **Institutional Development.** The process of corporatizing services continued during and after the ASP. This has resulted in some improvement, but at extra cost. Corporations are not financially independent and accountability is poor in some cases. Corporatization has not led to expansion of private sector activity and service corporations still resemble government agencies. In the remaining areas that have not been corporatized, the problems of decentralization and budget imbalance have not been addressed. Rural poverty is still high and widespread, and the status of women remains low. The ASP had no significant environmental impact, positive or negative, and commitments to improved environmental administration were not honored. Price stabilization remains an unresolved issue, and efforts to improve planning, data collection, and access to credit through the related TAs have been less than successful.

71. Notwithstanding such policy and design weaknesses, the ASP did provide needed support to the agriculture and rural development PIP during a period of financial crisis. Implementation of development programs and projects, many of which were externally supported, would have been adversely affected without adequate government counterpart funding, which was financed by the ASP. Also, balance of payments support, though not a formal stated ASP objective, assumed significant importance due to the depth and duration of the financial crisis wrought by the Bougainville civil disorder.

72. Based on the above considerations, the ASP is rated as partly successful.

B. Key Lessons

73. Most inadequacies of the ASP stem from design. Lack of a program preparatory TA and detailed sector analysis or analytical study of policy reform impacts resulted in a program inadequately tailored to the needs of the sector. Hence, the ASP promoted, by and large, continued existing or planned policies and programs of government that were well known to have been ineffective. The output and recommendations of the related TAs ideally should have been available at or soon after the design stage. The ASP should have had a much longer implementation period, accompanied by three tranches rather than two, and should have been stipulated to achieve institutional change in a country with known poor implementation and absorptive capacity. These lessons were not fully applied to the Agricultural Research and Extension Project,[15] which was financed by ADB and which immediately followed the ASP. However, the project was an improvement in that, while it also supported ongoing activities, the scope was more focused and activities selected more carefully. The more recent ADB-financed Smallholder Support Services Pilot Project (footnote 14) builds more fully on experience with the ASP by having a longer implementation period, explicitly involving decentralized institutions, and trying a new approach to extension services.

74. There was little effort during the ASP design period to build a sense of local ownership through consultations with the primary stakeholders, smallholder treecrop farmers. The multiple objectives of the ASP may also have affected the feeling of local ownership. Due to the financial crisis at the time, the inflow of foreign exchange was the main concern of the nominated Implementing Agencies: Bank of PNG and the Department of Finance. Their main interest was in expediting disbursement. It is also notable that ADB ceased supervision after the release of the second tranche, although the ASP provided for program benefit monitoring and evaluation during 1989-1996. Annual benefit monitoring and evaluation reports, if any, could not be found. The large number of activities supported by the counterpart funds would have made it impractical for ADB supervision staff to effectively monitor them. The effectiveness of the institutional strengthening elements of the ASP depended on DAL, which appears to have had little involvement in design, other than planning the PIP projects to be supported by counterpart funds. This may have contributed in particular to the ineffectiveness of the TAs. A program with a narrower focus and involving less implementing agencies would have permitted better management and supervision.

[15] Loan 1110-PNG(SF): *Agricultural Research and Extension Project,* for $22 million, approved on 29 October 1991.

C. Follow-Up Actions

75. The implementation of the ADB-financed Smallholder Support Services Pilot Project (footnote 14) is a useful follow-up to the ASP. The Project's success is not assured, but it will increase knowledge in the key areas of providing extension services and working with provinces. The lessons from it should be used to prepare a services project with wider scope and involving provinces, districts, and local governments. The Office of Pacific Operations (OPO) should also assess the effectiveness of the corporate extension services within the next year so that the wide differences between them can be at least understood, if not rationalized.

76. Efforts under the ASP to improve access to credit failed, but the issue is still important. Services have deteriorated since the ASP, and the demise of ABPNG, now called the Rural Development Bank, as a separate and government-owned institution appears imminent. Serious attempts to reform it have been unsuccessful and the time is right to examine new approaches. ADB is currently financing a microfinance project that may increase understanding of rural credit issues. The issue of rural credit should be revisited by OPO, but not until the ongoing ADB microfinance project has had some time to produce results (about two years). By that time, the fate of the Rural Development Bank should also be clear.

77. While efforts to strengthen the policy and planning functions of DAL were unsustainable, the functions have become more important. In particular, DAL needs the capacity to monitor and coordinate the activities of industry and other corporations providing services to the sector. The development of a monitoring system and associated training would be a suitable focus for a TA to be processed by OPO, if possible, by late 2002. The TA may need to cover also reporting within the corporations, as some have not produced annual reports for several years. In view of the experience with TA 1240-PNG (footnote 11), assistance should be long term and not restricted to an advisory role.

APPENDIXES

POLICY MATRIX

Program Measures	Status as of December 1992	Status as of March 1996	Status as of February 2001
A. Policy Measures Taken before the First Tranche			
1. Incentive Measures			
(i) Suspension of all export taxes on agricultural commodities during the loan utilization period	Complied with	Still suspended	Still suspended except for logs
(ii) Retention, during the program period, of full tax deductions for producers, covering the cost of capital equipment and land development	Complied with	Still retained	Still retained
(iii) Retention, during the program period, of accelerated tax deductions for capital equipment used for secondary processing of agricultural commodities	Complied with	Still retained	Still retained
(iv) Retention, during the program period, of tax exemptions for secondary processed agricultural exports	Complied with	Still retained	Removed in 1997
(v) Retention, during the program period, of double deductions for export market development costs	Complied with	Still retained	Still retained
(vi) Retention, during the program period, of existing incentive scheme for investment in agricultural development companies	Complied with	Still retained	Still retained
(vii) Reduction, during the program period, of double tax deductions for training and wages of trainees	Complied with	Still retained	Still retained
(viii) Reduction of existing tariffs on the importation of agricultural production inputs (fertilizers, non-harmful agrochemicals and seeds) from 8.5 percent to 5 percent	Complied with	See point B.1	See point B.1
(ix) Continuation of the rural development incentives scheme, whereby agricultural investors in selected nonmining areas are eligible for a 10-year tax holiday	Complied with	Still continued	Still retained

Program Measures	Status as of December 1992	Status as of March 1996	Status as of February 2001
2. Subsidies Abolish subsidies on seeds and seedlings	Complied with	No change	No change
3. Stabilization Funds and Commodity Pricing Government budgetary support to all commodity funds to existing commitments (K15 million to cocoa and K5 million to copra)	Not complied with	See point B.2	Not complied with. Government budgetary support totaled K40 million by end-1990 when new arrangements were adopted. See point B.2.
B. Measures That Were a Condition for the Second Tranche 1. Incentive Measures Suspension, during the remainder of the program period, of tariffs on the importation of agricultural production inputs (fertilizers, nonharmful agrochemicals and seeds)	Complied with	Reintroduced in January 1993 at 10 percent as part of a wider tax reform package. Import duties for all production inputs were raised to 11 percent base rate in November 1994.	11 percent tariffs applied until 1999. Tariffs have been abandoned for most inputs, but all are subject to the 10 percent value-added tax (VAT) introduced in 1999. Some inputs and consumption items important to smallholders are subject to high protective tariffs in addition to VAT.
2. Commodity Pricing Revise commodity price support formulas (copra, cocoa, oil palm, and coffee) and immediate implementation of the recommendations (to be agreed upon by the Borrower and ADB) of an ADB-financed study, with the objective of making the commodity funds entirely self-financing over a period of time, also to be determined by the study	Substantially complied with	5-year assistance program scheduled for completion by 1997	Not complied with. Study recommendations linking pricing formulas to moving average market prices were adopted. Government linked support prices to production costs after the utilization period and K275 million advanced. Industries later made substantial repayments of advances. No price stabilization arrangements are now in place except for K24 million in coffee fund.

Program Measures	Status as of December 1992	Status as of March 1996	Status as of February 2001
3. Investment Laws			
(i) Liberalize the system for the allocation of licenses and work permits for overseas contract staff	Complied with	Further liberalized	Prohibited enterprises and jobs have been reduced.
(ii) Simplify existing National Investment and Development Authority (NIDA) regulations and registration system and establish, if viable, a unit to deal with all inquiries at one single point; and limit NIDA's investment approval period to three months and finalize a study into NIDA's regulations and registration system (the recommendations of which will be discussed by the Government and ADB prior to their implementation).	Complied with	No substantial change	NIDA was abolished and its functions assumed by the Investment Promotion Authority. National Investment Policy approved in 1998 further liberalized investment regime. IPA is moving toward, but has yet to achieve, a one-stop shop for investors. IPA reports poor dialogue with the Department of Agriculture and Livestock (DAL) regarding priorities in the agriculture sector for investment promotion.
4. Public Works			
Review existing work practices and procedures with respect to agricultural projects; give priority to agricultural projects, particularly the capital works components	Complied with	No substantial change	DAL reports no significant improvement in performance. New procedures for award of tenders were adopted, but approval of supply and civil works contracts still experience substantial delays.
C. Institutional Measures That Were Conditions for the Second Tranche			
1. Strengthening Extension			
(i) Establish independent and accountable extension services that operate through commodity industry boards/corporations with majority industry representation; develop separate specialist and independent extension services for the oil palm, copra, and cocoa sectors; and maintain the functions of the Coffee Development Agency within the structures of the recently established Coffee Industry Corporation	Substantially complied with	Effective independent and industry-run extension services were in existence for coffee and oil palm. Those for cocoa and copra were being established.	Cocoa and copra extension agency established in1996, but the Cocoa and Copra Industry Corporation (CCIC) still not established. Other extension services continue to operate through their commodity boards. Independence and accountability issues remain significant and methodology is unchanged from that used by DAL/provincial Departments of Primary Industry.

Program Measures	Status as of December 1992	Status as of March 1996	Status as of February 2001
(ii) Design a program and provide adequate financial support to Department of Agriculture and Livestock for strengthening of food and minor crop extension activities, particularly in terms of these crops' role in income diversification; and design an in-service training program	Complied with	These activities did not receive adequate budget support.	DAL has established regional units in 1999 to support Provincial extension workers. Financial and logistic support of regional units is inadequate. Nontree crop extension has not been strengthened and may have been weakened by competition for resources from corporatized services. No new extension methodology has been introduced.
2. Strengthening Research and Specialist Technical Services			
(i) Fund a program to expand research facilities into food crop systems and increase activities into diversification (food crops, vegetables, minor cash crops, agroforestry and small livestock)	Complied with	These programs had generally expanded in the review period, with substantial external support.	Most of these functions transferred to the National Agricultural Research Institute (NARI), which operates outside of Government procedural restrictions and has had generous external support. No government support for two years and NARI lacks core funding. Activities were curtailed following withdrawal of Government support.
(ii) Improve quarantine services to prevent the introduction of pests and diseases and upgrade port entry quarantine facilities	Complied with	Further upgrading was taking place with external support.	These services are now the primary responsibility of the National Agricultural Quarantine and Inspection Authority (NAQIA), a government-owned corporation. Established (1998) with external support. Government funding withdrawn in 1999. Charges introduced to cover costs are of concern to industry.
(iii) Improve infrastructure for the delivery of specialist technical advice and service (such as crop health, veterinary, agriculture chemistry, etc.) to field workers	Complied with	Further improvements were under way with external support.	Service is being provided by NARI as well as by newly established DAL regional support groups.
(iv) Devise a system for checking the quality of export products	Complied with	No substantial changes	A function of the NAQIA; however, NAQIA export certification is not internationally recognized and charges are reportedly high.

Program Measures	Status as of December 1992	Status as of March 1996	Status as of February 2001
3. Training Revitalize the preservice and in-service training program for agricultural staff by • Improving the infrastructure of agricultural colleges; • Making course syllabi more appropriate to existing agricultural systems; • Upgrading teaching staff degree and post-graduate degree training; and • Introducing a scheme to improve staff incentives and staff rotation.	Complied with	No substantial changes	Training programs and facilities received substantial upgrading from the Food and Agriculture Organization and New Zealand. One college was upgraded to university status. Twinning was not successful. Institutions still under DAL control and management have inadequate resources.
4. Planning and Marketing Strengthen agricultural policy development planning capabilities within DAL and the Department of Finance and Planning and introduce a management information system supported by an accounting system and project monitoring system; and strengthen the existing marketing unit to provide market intelligence to exporters as well as strategy guidelines for the development of marketing systems	Complied with	Substantial changes had taken place, due to considerable staff changes, which led to a deterioration in the department's policy and planning capabilities.	The structure exists for effective policy development, planning, and marketing, but few positions are filled by suitably qualified and experienced personnel. Several DAL economists have gone to industry corporations. The management and market information systems introduced by the technical assistance are not operational. DAL is not the lead policy maker for the sector. Industry corporations have considerable policy independence.
5. Credit Undertake a rural credit study to examine the need for credit and, where appropriate to provide recommendations for improving smallholder access and the operational capabilities of the Agriculture Bank of Papua New Guinea (ABPNG). Implement the study's recommendations after consultation between the Government and ADB.	Study completed	Consultations between ADB and Government had not taken place and the recommendations had not been implemented.	Recommendations on interest rate and administrative subsidies, saving mobilization, and refinancing facilities have not been substantially implemented. Follow-up TA on ABPNG was not effective due to political interference. Privatization of Government banks has been foreshadowed. Access to credit by smallholders remains negligible.

Table A2.1: Coffee Industry Statistics

Item	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Production ('000 t)											
Smallholder	44.5	41.2	33.4	38.5	43.7	46.2	43.0	49.5	52.3	64.6	67.8
Plantation	17.0	15.0	12.1	18.1	17.9	19.8	15.1	15.6	12.2	16.1	11.9
Total	**61.6**	**56.2**	**45.5**	**56.5**	**61.6**	**66.0**	**58.1**	**65.1**	**64.6**	**80.7**	**79.7**
Exports											
Quantity ('000 t)	79.0	63.1	47.2	54.8	63.5	69.5	60.1	65.2	62.8	80.9	79.2
Value (K million)	139	102	79	63	91	229	223	180	340	451	421
Average Price (K/t)	1,795	1,616	1,671	1,149	1,436	3,296	3,726	3,010	5,406	5,578	5,305

t = ton.

Notes: 1. Quantities and average prices are generally for green beans, although production figures may include parchment.
2. Export quantities consistently exceed production quantities, indicating possible errors in production data.

Source: Coffee Industry Corporation. Figures on exports differ slightly from Bank of Papua New Guinea data.
1998 and 1999 quoted in M.P. Levett. April 2000. Agriculture Working Paper for Rural Development Sector Study. Australian Agency for International Development and World Bank.

Table A2.2: Oil Palm Industry Statistics

Item	1991	1992	1993	1994	1995	1996	1997	1998	1999
Production Area ('000 ha)									
Smallholder	22.5	23.8	24.3	26.2	28.1	29.9	31.8	35.1	37.4
Plantation	28.5	34.2	38.7	40.3	43.7	—	—	—	—
Total	**51.0**	**58.0**	**63.0**	**66.5**	**71.8**	—	—	—	—
Production ('000 t of fresh fruit bunches)									
Smallholder	263.6	261.8	261.0	263.1	278.9	324.8	344.4	395.0	423.8
Plantation	519.9	630.3	724.3	725.2	704.8	—	—	—	—
Total	**783.5**	**892.1**	**985.3**	**988.3**	**983.7**	—	—	—	—
Average Yields (t/ha)									
Smallholder	11.7	11.0	10.7	10.0	9.9	10.8	10.8	11.3	11.3
Plantation	18.2	18.4	18.7	18.0	16.1	—	—	—	—
Exports of Crude Palm Oil ('000 t)	199	206	246	231	187	267	275	213	254
Average Export Price (K per t fob)	263	286	315	336	762	683	753	1,277	1,331
Farm Price for Fresh Fruit Bunches (K/t)	—	—	—	44.70	76.50	—	—	—	—

— = not available, fob = free on board, ha = hectare, t = ton.

Source: Oil Palm Industry Corporation.

Table A2.3: Cocoa Industry Statistics

Item	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Production ('000 t)											
Smallholder	29.5	24.6	18.6	22.9	22.6	19.9	20.8	17.9	17.0	20.0	—
Plantation	18.3	13.9	13.3	14.4	13.1	11.4	9.4	9.3	7.6	7.1	—
Total	**47.8**	**38.5**	**31.9**	**37.3**	**35.7**	**31.3**	**30.2**	**27.2**	**24.6**	**27.1**	**—**
Exports											
Quantity ('000 t)	46.6	33.9	35.8	38.6	37.8	26.0	30.6	41.0	38.6	26.1	29.0
Value (K million)	45.2	29.9	34.0	34.1	33.1	29.0	47.7	66.2	73.3	81.7	84.6
Average Price (K/t)	970	882	950	882	859	1,115	1,559	1,615	1,899	3,130	2,917
Farm Price											
(K/kg of wet beans)	0.29	0.26	0.24	0.24	0.31	0.33	0.35	0.38	—	—	—

— = not available, kg = kilogram, t = ton.

Note: Quantities and price for dry beans.

Sources: Production: Cocoa/Coconut Research Institute.

Exports: Bank of Papua New Guinea Quarterly Economic Bulletin.

Table A2.4: Coconut Industry Statistics

Year	Copra Production	Exports ('000 t)		Export Prices (K/t fob)	
		Copra	Coconut Oil	Copra	Coconut Oil
1989	—	60.7	34.6	231	442
1990	—	55.3	34.8	157	333
1991	—	44.0	33.2	118	386
1992	117	47.5	34.8	247	625
1993	123	59.0	45.5	251	441
1994	99	50.3	34.7	292	579
1995	122	64.2	33.1	427	897
1996	144	99.2	49.6	494	1,036
1997	142	90.3	48.6	523	1,051
1998	124	58.1	53.2	668	1,310
1999	—	63.5	50.3	1,047	1,905

— = not available, fob = free on board; t = ton.

Sources: Production: Copra Marketing Board.
Exports: Bank of Papua New Guinea Quarterly Economic Bulletin.

Table A2.5: Smallholder Contributions to Industry Organizations

(K/ton)

Item	Coffee	Oil Palm	Cocoa	Coconuts
Research	—	0.9	20	4
Extension	—	3.5	5	4
Corporation Operation	—		40	50
Total	80	4.4	65	58
Price[a]	2,300	26.00	1,300	250
% for Research[b]		3.4	1.5	1.6
% for Extension[b]		13.5	0.4	1.6
EW: Farmer	1:4,000	1:80	1:10,000	1:20,000
% Total[b]	3.4	16.9	5	23.2

— = not available, EW = extension worker.

[a] Prices guaranteed by the Government from 1992 to 1997. Market prices have since moved higher.

[b] Percent of farmgate price.

Table A2.6: Coffee Industry Corporation Funding (K '000)

Item	1992	1993	1994	1995	1996	1997[a]	1998	1999
Industry Levy	1,982	2,100	2,376	3,600	3,600	2,640	3,964	3,944
Internally Generated Funds	536	580	971	1,074	2,250	895	3,264	4,280
Government Grant	0	2,339	0	0	2,750	750	4,670	0
Project	5,273	5,999	6,000	6,000	0	0	0	0
Other International Sources	0	0	0	2,650	0	0	1,144	338
Total	**7,791**	**11,018**	**9,347**	**13,324**	**8,600**	**4,285**	**13,043**	**8,563**

[a] Estimates only.

Source: Coffee Industry Corporation.

Table A2.7: Oil Palm Research Association Funding (K '000)

Item	1992	1993	1994	1995	1996	1997
Industry Levy	799	857	806	518	709	1,128
Government Grant	0	0	0	0	361	278
Project	366	250	400	316	0	0
Others	34	28	248	397	534	1,079
Total	**1,199**	**1,135**	**1,454**	**1,231**	**1,604**	**2,485**

Source: Oil Palm Research Association.

Table A2.8: Cocoa/Coconut Research Institute Funding (K '000)

Item	1991	1992	1993	1994	1995	1996	1997
Industry Sources							
- Levy	1,101	1,142	927	530	1,179	1,239	1,222
- Special Funds from CMB			150	837	1,530	593	
Internally Generated Funds	203	689	810	702	340	869	977
Government Grant	450				942	816	998
Project		777	356	573	389		
Others (mostly EU Stabex)	48	172	148	42	3,524	1,583	4,931
Total	**1,802**	**2,780**	**2,391**	**2,684**	**7,904**	**5,100**	**8,128**

CMB = Cocoa Marketing Board, EU = European Union.

Source: Cocoa/Coconut Research Institute.

Table A2.9: Forecast and Actual Exports of Tree Crop Products ('000 t)

Item		1990	1991	1992	1993	1994	1995
Coffee	Forecast	68	70	72	75	78	82
	Actual	63.3	46.6	53	62.8	64.7	55.1
Cocoa[a]	Forecast	43.1	46.1	49.1	52.1	55.1	58.1
	Actual	33.9	35.8	38.6	37.8	26	30.6
Copra[a]	Forecast	95	95	95	95	95	95
	Actual	55.3	44	47.5	59	50.3	64.2
Coconut	Forecast	41	41	41	41	41	41
Oil[a]	Actual	34.8	33.2	34.8	45.5	34.7	33.1
Palm Oil	Forecast	187	204.6	223.8	244.8	267.7	299
	Actual	142.7	199.6	206.1	245.7	230.8	186.6
Rubber	Forecast	5.9	6.1	6.3	6.5	6.7	6.9
	Actual	2.3	2.8	2.7	3.6	3.4	2.7

[a] Affected by loss of production from Bougainville.

Sources: Forecast: Report and Recommendation of the President, Appendix 2, Table 39.

Actual: Bank of Papua New Guinea Quarterly Economic Bulletin, December 1995.

Table A2.10: Nominal and Real Export Earnings, 1989-1999

(K million)

Year	Coffee		Cocoa		Coconut Products		Palm Oil		CPI	$
	Nominal	Real	Nominal	Real	Nominal	Real	Nominal	Real	Base 1989	per Kina
1989	140.4	140.4	45.2	45.2	29.3	29.3	38.3	38.3	100.0	1.2
1990	103.3	96.5	29.9	27.9	20.3	18.9	32.7	30.6	107.0	1.1
1991	79.5	69.7	34.0	29.8	18.0	15.8	52.5	46.0	114.0	1.1
1992	68.1	57.2	34.1	28.6	36.0	30.2	64.2	53.9	119.0	1.0
1993	100.5	80.4	33.1	26.5	33.8	27.0	79.2	63.4	125.0	1.0
1994	204.8	158.7	29.0	22.4	34.8	26.9	77.5	60.0	129.0	0.9
1995	214.5	142.0	47.7	31.5	57.1	37.8	142.2	94.1	151.0	0.8
1996	190.3	113.2	66.2	39.4	100.4	59.8	182.4	108.6	168.0	0.8
1997	325.9	186.2	73.3	41.9	98.3	56.1	207.1	118.3	175.0	0.7
1998	476.4	239.3	81.7	41.0	108.5	54.5	271.9	136.6	199.0	0.5
1999	417.1	182.9	84.6	37.1	162.3	71.2	337.9	148.2	228.0	0.4

CPI = consumer price index.

Sources: Bank of PNG Quarterly Economic Bulletins, various issues.

TECHNICAL ASSISTANCE

Four technical assistance (TA) grants were provided concurrently with the loan.

A. TA 1237-PNG: Review of Commodity Stabilization Fund Schemes

1. The study was carried out from July 1990 to February 1991 and reviewed the operations and mechanisms of commodity pricing and stabilization in Papua New Guinea (PNG). The technical assistance recommended that (i) the moving average periods be reduced to five years; (ii) the inflation adjustment be eliminated; (iii) for each crop, limitations be placed on the size of the fund and the amount paid out in any one year; and (iv) a sum of K120 million be allocated to recapitalize the funds over a five-year period. The requirements of the terms of reference (TOR) were met. The Government appeared to substantially accept the recommendations; however, commodity prices had fallen below those foreseen at loan appraisal and the Government continued to provide finance to the industry funds during 1991. Following a change of Government, five-year price guarantees for the main export crops were introduced in 1992-1997. This change was contrary to anything suggested in the TA and led to the major blowout in Government funding (paras. 18-20 of main text).

B. TA 1238-PNG: Review of Agricultural Taxation and Tariff Systems

2. The study reviewed the country's existing taxation and tariff systems, particularly as they apply to the agriculture sector, and recommended tax and tariff measures to stimulate investment in agriculture. It was carried out from July 1990 to April 1991. Reporting and consultation requirements, including consultations with the Asian Development Bank (ADB), were met and documented in the final report. Minor narrowing of the focus of the TOR was endorsed at the first tripartite meeting and the requirements of the revised TOR were met. Major findings were that smallholders did not pay income tax, but that levies paid for extension and research services—which were often provided free in other countries—had similar consequences; that abolishing import duty on agricultural inputs would produce substantial savings for estates, but not for smallholders; that the burden of direct taxation was less for firms engaged in agriculture than in other sectors but that protection provided to the PNG manufacturing sector indirectly taxed agriculture; that the burden of export tax on smallholders varied between industries; and that while deductions allowed for development expenditure had contributed greatly to agricultural investment, the main impediments to investment in agriculture were outside the taxation system.

3. The findings indicated that some policy reforms required in the loan covenants would not be effective in achieving the objectives of the program, especially as they relate to smallholders. The report recommended that the tax base be broadened by increasing indirect taxes after considering inflationary and equity consequences, that export taxes not be abolished but suspended at times of low prices, and that import taxes on agricultural inputs and levies paid for extension and research services be linked to export prices in the same way as recommended for export taxes. PNG officials involved in the tripartite meetings during the TA concurred with these recommendations. A value-added tax (VAT) was introduced in 1999 to broaden the indirect tax base, but the other recommendations have not been adopted. Import duties were abolished on most agricultural imports, but high protective duties remain on some items important to agricultural producers. The VAT applies to all agricultural inputs though bigger producers are able to claim rebates. Some provision has been made for commodity buyers to make allowance for VAT paid by smallholders on inputs, but there is anecdotal evidence that this is not widely used. This provision may not meet the equity requirements specified in the TA.

C. TA 1239-PNG: Agricultural Credit and Rural Savings Study

4. The objective was to assess the demand for credit and formulate policy and institutional reforms that were necessary to expand and improve rural financing services, particularly those needed by the smallholders; the operational capabilities of the Agriculture Bank of Papua New Guinea (ABPNG); and the scope of rural savings mobilization. The TA was carried out from November 1990 to June 1991. The TOR indicated an expected quantification of credit requirements, savings potential, and detailed proposals for policy and institutional change to achieve the stated goals. Close attention was to be paid to ABPNG and the PNG Banking Corporation, both of which are Government owned. The scope of the TOR may have been unrealistically ambitious. Input from PNG stakeholders was to be provided through two seminars: one to consider the findings on needs and provide direction in the preparation of detailed proposals; the other to consider draft proposals from the study team.

5. The main findings were that smallholders had negligible access to credit, and that risks and costs were high in agricultural lending in PNG. Main recommendations included standardizing and removing subsidies from interest rates on agricultural loans; that temporary subsidies be provided to lenders to compensate for the high administrative costs of lending; that the Agricultural Export Development and associated schemes be abolished; that the credit guarantee and various provincial guarantee schemes be phased out; that a refinancing scheme be introduced to provide long-term credit for farmers participating in public investment program projects managed by the Department of Agriculture and Livestock (DAL); that returns on savings deposits be improved and new, more culturally compatible savings instruments be introduced; that ABPNG consider taking deposits and its equity position be the subject of a separate assessment; that PNGBC set up a separate rural lending division; that the Bank of PNG expand its role in supervising the agricultural portfolios of banks; that a national agriculture credit advisory board be established; and that a rural banking and development institute be established.

6. These findings were presented in a wordy (540 pages) report, which may of itself have been a problem. A significant omission in the output was any coverage of informal and microcredit mechanisms, though this was required. With regard to other recommendations, the quantification requirements of the TOR were not met and the proposals generally lacked the details required for firm decisions to have been made on them. The first seminar required under the TOR was held on 14 February 1991 and ADB was represented. The second was held on 22 March 1991 and ADB again participated. ADB staff did not express any dissatisfaction with the execution of the TA. The Review Mission that visited PNG prior to the release of the second tranche in October 1991 stated: “The Government has completed the review of the findings and recommendations of the TA Consultants and has begun implementation of the findings in consultation with the Bank.” This statement was repeated in the PCR of June 1996.

7. The TA was a significant attempt to address a serious and largely intractable issue affecting the rural sector. While there were shortcomings in executing and possibly in formulating the TA, some recommendations were appropriate and practical. However, with the exception of the fielding of the TA to strengthen ABPNG, none of the recommendations were adopted. As a result of the ABPNG TA, there was some reduction in the subsidization of interest rates and costs were cut through staff reductions. Since then, however, the state of rural financial services has continued to deteriorate and now there is no credit available to the sector and no accessible institutions to encourage saving. The main Government institutions responsible are in greater disarray than they were at the time of the study and the task of

rebuilding or reforming is much greater. The TA and loan represent an opportunity that both the Government and ADB missed.

D. TA 1240-PNG: Agriculture Sector Program Implementation and Strengthening DAL's Farm Management Information System

8. The objectives were (i) to advise the Government on implementing the Agriculture Sector Program; and (ii) strengthen the collection of farm data by training staff in collection methodologies, enumeration, and preparation of statistical reports. A program implementation economist (PIE) and a farm management economist (FME) were to provide the services and funds were provided to purchase computers and to finance surveys. Consultants were to submit an inception report after four weeks and a draft final report after 10 months. The FME was fielded under a separate contract and there is no evidence that the PIE was ever recruited. The final report indicates that the FME submitted an inception report that was considered at a tripartite meeting attended by ADB on 22 January 1991. The final report was submitted in January 1992, but there is no indication that a draft was submitted or considered by a tripartite meeting. No record of the contribution of the PIE was found.

9. The FME served from November 1990 to December 1991 inclusive, his assignment having been extended by two months to enable him to induct a newly arrived Korean volunteer into the data collection work. The FME's report indicates that considerable efforts were made in developing data-handling systems, training staff, and conducting surveys. Market and management information systems were installed and a detailed farm budgeting manual was prepared. However, neither were maintained or updated after the TA was completed. Provincial and regionally based DAL staff as well as those from the industry organizations collaborated in the survey work. On instructions of DAL management, some survey efforts were directed at issues important in terms of current departmental decisions, but not necessarily ideal from the viewpoint of establishing an ongoing data collection system. To some extent, the FME may have slipped partly into a line function rather than an advisory role intended to strengthen the institution sustainably. Recommendations were made for upgrading the staff of the Farm Management Unit, including an expatriate adviser in the short term, and seeking external support. These were not implemented.

10. The Bank Review Mission, which visited PNG in October 1991 before the release of the second tranche, noted: "The implementation of the TA has progressed well and will be completed in January 1992. Upon submission of the TA Report, the Government will consult the Bank regarding the implementation of the recommendations made therein." The Project Completion Report of June 1996 noted "The consultants started on 1 November 1990 and completed the assignment in January 1992. No evidence could be found of any contribution to the implementation of the Program." The division of DAL responsible for farm management and statistics has experienced loss of experienced staff from the time of the TA and activity in those areas is negligible. The counterpart staff that had been trained have moved on and may still be benefiting from the training received. The TA has therefore not produced lasting benefits, though the consultant's services appear to have been valued by the Department at the time. In hindsight, the goals were ambitious and, given the weakness of the host institution, it was unlikely that the expected benefits could have been achieved with the limited resources provided and especially over such a short time. A longer term TA not restricted to an advisory role may have been more effective.