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PROJECT PERFORMANCE ASSESSMENT REPORT



PAPUA NEW GUINEA
**Smallholder Agriculture
Development Project**

Report No. 128312

SEPTEMBER 18, 2018

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PROJECT PERFORMANCE ASSESSMENT REPORT

PAPUA NEW GUINEA

SMALLHOLDER AGRICULTURE DEVELOPMENT PROJECT

(IDA-437401)

September 18, 2018

*Financial, Private Sector, and Sustainable Development
Independent Evaluation Group*

Currency Equivalents (annual averages)

Currency Unit = Papua New Guinea kina

2008	US\$1.00	K 2.67
2010	US\$1.00	K 2.64
2012	US\$1.00	K 2.10
2014	US\$1.00	K 2.20

Abbreviations

AusAID	Australian Agency for International Development
ACIAR	Australian Centre for International Agricultural Research
CDD	community-driven development
CPS	country partnership strategy
CSTB	Central Supply and Tender Board
ESA	European Space Agency
FCP	Forestry Conservation Project
FFB	fresh fruit bunch
GDP	gross domestic product
HIV/AIDS	human immunodeficiency virus and acquired immune deficiency syndrome
ICR	Implementation Completion and Results Report
IDA	International Development Association (of the World Bank Group)
M&E	monitoring and evaluation
MIS	management information system
OPIC	Oil Palm Industry Corporation
OPRA	Papua New Guinea Oil Palm Research Association Inc.
PAD	project appraisal document
PDO	project development objective
SADP	Smallholder Agriculture Development Project
UNICEF	United Nations Children's Fund

All dollar amounts are U.S. dollars unless otherwise indicated.

Fiscal Year January 1–December 31

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This report was prepared by Christopher Nelson who assessed the project in March 2016. The report was peer reviewed by Lauren Kelly and panel reviewed by Jack W. van Holst Pellekaan. Vibhuti Khanna provided administrative support.

Principal Ratings

	ICR*	ICR Review*	PPAR
Outcome	Moderately unsatisfactory	Unsatisfactory	Unsatisfactory
Risk to Development Outcome	High	High	High
Bank Performance	Moderately satisfactory	Moderately unsatisfactory	Moderately unsatisfactory
Borrower Performance	Unsatisfactory	Unsatisfactory	Unsatisfactory

* The Implementation Completion and Results Report (ICR) is a self-evaluation by the responsible World Bank department. The ICR Review is an intermediate IEG-World Bank product that seeks to independently verify the findings of the ICR.

Key Staff Responsible

Project	Task Manager or Leader	Division Chief or Sector Director	Country Director
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IEG Mission: Improving World Bank Group development results through excellence in evaluation.
About this Report

The Independent Evaluation Group (IEG) assesses the programs and activities of the World Bank for two purposes: first, to ensure the integrity of the World Bank's self-evaluation process and to verify that the World Bank's work is producing the expected results, and second, to help develop improved directions, policies, and procedures through the dissemination of lessons drawn from experience. As part of this work, IEG annually assesses 20–25 percent of the World Bank's lending operations through fieldwork. In selecting operations for assessment, preference is given to those that are innovative, large, or complex; those that are relevant to upcoming studies or country evaluations; those for which executive directors or World Bank management have requested assessments; and those that are likely to generate important lessons.

To prepare a Project Performance Assessment Report (PPAR), IEG staff examine project files and other documents, visit the borrowing country to discuss the operation with the government and other in-country stakeholders, interview World Bank staff and other donor agency staff both at headquarters and in local offices as appropriate, and apply other evaluative methods as needed.

Each PPAR is subject to technical peer review, internal IEG panel review, and management approval. Once cleared internally, the PPAR is commented on by the responsible World Bank country management unit. The PPAR is also sent to the borrower for review. IEG incorporates both World Bank and borrower comments as appropriate, and the borrowers' comments are attached to the document that is sent to the World Bank's Board of Executive Directors. After an assessment report has been sent to the Board, it is disclosed to the public.

About the IEG Rating System for Public Sector Evaluations

IEG's use of multiple evaluation methods offers both rigor and a necessary level of flexibility to adapt to lending instrument, project design, or sectoral approach. IEG evaluators all apply the same basic method to arrive at their project ratings. Following is the definition and rating scale used for each evaluation criterion (additional information is available on the IEG website: <http://ieg.worldbankgroup.org>).

Outcome: The extent to which the operation's major relevant objectives were achieved, or are expected to be achieved, efficiently. The rating has three dimensions: relevance, efficacy, and efficiency. *Relevance* includes relevance of objectives and relevance of design. Relevance of objectives is the extent to which the project's objectives are consistent with the country's current development priorities and with current World Bank country and sectoral assistance strategies and corporate goals (expressed in poverty reduction strategy papers, country assistance strategies, sector strategy papers, and operational policies). Relevance of design is the extent to which the project's design is consistent with the stated objectives. *Efficacy* is the extent to which the project's objectives were achieved, or are expected to be achieved, taking into account their relative importance. *Efficiency* is the extent to which the project achieved, or is expected to achieve, a return higher than the opportunity cost of capital and benefits at least cost compared with alternatives. The efficiency dimension is not applied to development policy operations, which provide general budget support. *Possible ratings for outcome:* highly satisfactory, satisfactory, moderately satisfactory, moderately unsatisfactory, unsatisfactory, and highly unsatisfactory.

Risk to Development Outcome: The risk, at the time of evaluation, that development outcomes (or expected outcomes) will not be maintained (or realized). *Possible ratings for risk to development outcome:* high, significant, moderate, negligible to low, and not evaluable.

Bank Performance: The extent to which services provided by the World Bank ensured quality at entry of the operation and supported effective implementation through appropriate supervision (including ensuring adequate transition arrangements for regular operation of supported activities after loan or credit closing, toward the achievement of development outcomes). The rating has two dimensions: quality at entry and quality of supervision. *Possible ratings for Bank performance:* highly satisfactory, satisfactory, moderately satisfactory, moderately unsatisfactory, unsatisfactory, and highly unsatisfactory.

Borrower Performance: The extent to which the borrower (including the government and implementing agency or agencies) ensured quality of preparation and implementation, and complied with covenants and agreements, toward the achievement of development outcomes. The rating has two dimensions: government performance and implementing agency(ies) performance. *Possible ratings for borrower performance:* highly satisfactory, satisfactory, moderately satisfactory, moderately unsatisfactory, unsatisfactory, and highly unsatisfactory.

Preface

Christopher Nelson, senior evaluation officer in the Independent Evaluation Group (IEG) Sustainable Development, carried out a mission to Papua New Guinea to conduct a Project Performance Assessment Report (PPAR) on the Papua New Guinea Smallholder Agriculture Development Project (SADP; P079140) from March 17 through March 24, 2016. In addition to reviewing the project, the mission sought to investigate the links between this project and evaluative questions raised in IEG's rural nonfarm economy evaluation.

The project went to appraisal in February 2007, and the World Bank Board approved the project on December 18, 2007. Effectiveness was delayed until January 2009, and the project closed on December 31, 2013. Total project costs were \$25.41 million against an appraisal estimate of \$68.80 million.

IEG met with a variety of stakeholders linked to the program, including project coordination unit staff, project beneficiaries, government counterparts and partners, World Bank staff, other key donors, and nongovernmental organizations.

Following standard IEG procedures, copies of the draft PPAR were sent to the relevant government officials and agencies for their review and feedback. No comments were received.

Summary

This is a Project Performance Assessment Report (PPAR) of the Papua New Guinea Smallholder Agriculture Development Project (SADP; P079140). The World Bank Executive Board approved the project on December 18, 2007.

Papua and New Guinea (Papua New Guinea) has faced considerable development challenges since its independence in 1975. Through the SADP, the World Bank sought to improve community participation in rural areas by supporting the already-established local palm oil production industry. Papua New Guinea's agricultural sector contributes to 25 percent of the country's gross domestic product, reflecting its importance. Palm oil is the dominant contributor to the economy, representing 43.2 percent of agricultural export values. SADP was to be implemented in the Oro and West New Britain provinces to improve the supply chain for farmers, increase incomes, and ensure viable access to stimulate latent growers who were not producing at capacity. The priority was investing in the rehabilitation of rural roads to improve access to critical social services and markets for smallholders, not just for those involved in the oil palm sector.

The objective of SADP in the financing agreement (July 2008) was as follows: "To increase, in a sustainable manner, the level of involvement of targeted communities in their local development through measures aimed at increasing oil palm revenue and local participation." The key project development objective (PDO) indicators were an increase in smallholder income from palm oil production, and an increase in the level of funds and resources invested by local communities in their local development. The project had the following three components:

- Smallholder productivity enhancement (appraisal \$55.5 million, actual \$15.72 million), which included smallholder oil palm development, road works, and agricultural extension
- Local governance and community participation (appraisal \$3.1 million, actual \$0.0), which included the provision of local services and infrastructure
- Project management and institutional support (appraisal \$6.5 million, actual \$9.69 million), which covered support to the Oil Palm Industry Corporation (OPIC) and its oversight of guidance to local field teams

The SADP project was aligned at implementation with the World Bank's Papua New Guinea country program strategy for 2008–11 and at completion with the World Bank's Papua New Guinea country program strategy for FY2013–16. The project sought to increase smallholder involvement in their local development by increasing palm oil revenue, but there was no "how" or "through" in the PDO, making it difficult to understand how the project intended to achieve this impact. The project objective did not reference the theory of change and was linked vaguely to participation in local development. Given these shortcomings, the relevance of SADP's objective is rated **modest**.

SADP was designed to be implemented through two components. The project's analytical basis was sound, but the design did not incorporate constraints such as technical knowledge, crop management, and quality control sufficiently. This left many growers with limited room for improvements in yields. Given these substantial shortcomings, the rating for relevance of design—both before and after the project restructuring—is **modest**.

The project's PDO indicators included an increase in smallholder income from palm oil production and an increase in the level of funds and resources invested by local communities in their local development. These indicators were designed to assess the extent to which SADP's development objective was achieved.

One of the interventions for increasing palm oil revenue was to improve infrastructure and market links for growers through better roads. Relating to palm oil revenues, 223 kilometers of road were ultimately repaired, of which 43 kilometers were graveled, and the remaining portion was road improvement. This was 117 percent of the revised target established at the project restructuring, but was only 41 percent of the original target. Infill planting was undertaken along with road rehabilitation. The original target of 9,000 hectares was reduced to 2,500 hectares under the project restructuring, and 1,006 hectares were planted at project completion. This represents only 40 percent of the revised target and 11 percent of the original target. Yields for smallholder growers increased by 54 percent between 2006 and 2013 (the project period), from 15.2 tons per hectare to 23.37 tons per hectare (according to project monitoring reports). This achievement was well above the target of 15–19 percent, though the link between extension services and the changes were also affected by milling company efforts to better support secondary growers and a commitment to more regular fresh fruit bunch (FFB) pickup services. These improvements ultimately led to an increase in smallholder net income of more than 131 percent. Although incomes improved, local participation in development did not increase. The community development component was dropped in the restructuring in September 2012. Thus, though incomes increased, the rating for efficacy was hindered by limited achievement against increasing oil palm revenues and no improvement in engaging the community through a community-driven development (CDD) program. Therefore, the rating for efficacy is **modest**, with significant shortcomings.

A strong economic case remains to support palm oil growers in Papua New Guinea given the increasing global demand for FFB, but the methodological limitations of the economic analysis in the Implementation Completion and Results Report (ICR) make it difficult to attribute the benefits achieved solely to SADP. SADP's administrative inefficiency had a detrimental impact on the project's achievements and prevented recipients from maximizing the advantage that was expected from investments in a lucrative and growing sector of the economy. Therefore, the project's efficiency is rated **modest**, reflecting considerable shortcomings in the project's cost effectiveness.

SADP was a complex project working in a well-established and profitable sector of Papua New Guinea's economy. Although the design responded to relevant needs, SADP also represented an overambitious commitment to increase the involvement of targeted communities—a concept that lacked clarity, was difficult to monitor, and did not accurately reflect the project's intention.

The result of these shortcomings was a project with marginal progress against its PDO and considerable inefficiencies, leading to an overall **unsatisfactory** outcome rating.

Given the political, economic, and logistical risks associated with SADP, the evaluation team considers the risk to development outcome as **high**. Politically, OPIC continues to function, but it remains exposed to the government of Papua New Guinea's interference, operates without a permanent chief executive office, and has a board that rarely meets to ensure its strategic direction. Economically, the evaluation team found that although the road maintenance trust fund has provided some revenue for road maintenance, there are regular funding shortfalls, and contracting at the provincial level is not prioritized toward productive sectors. Logistically, the same risks that existed before SADP remain.

Regarding Bank performance, the project's multipronged approach was unrealistic in the capacity-constrained Papua New Guinea provinces. The approach grossly overestimated OPIC's capacity to implement the project, and it did not respond to other donors supporting rural development. In addition, the project design did not adequately address effective safeguard measures to manage potential environmental and social impacts associated with palm oil effluent and the likelihood of land conflicts. This diverse set of shortcomings led the review team to rate quality at entry as **moderately unsatisfactory**.

Regarding World Bank supervision during implementation, the World Bank team was responsive to both the issues requiring attention and to regular, iterative innovation in circumstances of limited capacity. However, there were shortcomings. The monitoring and evaluation (M&E) design, reporting, and analysis were poor; there were also capacity constraints that the World Bank team could have addressed better, and the team could have been more proactive in finding ways to fill the void when required. Thus, quality of supervision is rated **moderately satisfactory**, reflecting modest shortcomings, and the World Bank's overall performance is rated **moderately unsatisfactory**, given the unsatisfactory outcome rating.

The government was not committed to SADP, which affected the problems the project encountered, particularly in the early phase of project implementation. The provision of counterpart funds for the project was delayed and this led to problems with instituting committed works. The government was not proactive about preparation and implementation of the extension support resources, and it failed to appoint a general secretary to OPIC. Given these considerable shortcomings, even in an environment of limited capacity, government performance is rated **unsatisfactory**.

Based on the evaluation team's discussions with beneficiaries and associated stakeholders, the consensus is that even though OPIC fulfilled an important function through its representation of growers, it was ill-prepared to deliver a project as complex as SADP successfully. There were large management cost overruns, and the lack of oversight of the extension services led to serious deficiencies that were impossible to rectify within the project's time constraints. Financial reviews and audits were often delayed. World Bank staff highlighted the need for regional office oversight of procurement and audit procedures to ensure that the project complied with World Bank requirements. Thus, the rating for implementing agency

performance is **unsatisfactory**, and hence the rating for overall borrower performance is **unsatisfactory**.

There were significant and persistent shortcomings in the design of the M&E system for SADP. Although the intermediate indicators for component 1 were useful in illustrating the impact of SADP activities, there was insufficient detail on how the necessary surveys to collect the data would be undertaken, who would conduct the surveys, and how the process would be managed. In effect, these shortcomings illustrate the overambitious nature of the M&E design, which did not reflect the reality and challenges of projects in Papua New Guinea. Given these design limitations, SADP inevitably confronted problems in implementing the M&E approach. The project team in OPIC provided regular progress reporting, but the planned management information system did not materialize. Furthermore, the secondary baseline reporting was contracted to a company in December 2011, but was rejected because of methodological limitations. IEG's evaluation team found that SADP's approach was just too ambitious, limited in its performance utility, and unable to deliver against the intentions outlined in the project appraisal document. From a purely operational perspective, SADP's inability to build on the good work carried out in the baseline assessment, track this work effectively through the life of the project, and draw on the findings to inform managerial responses meant that many of the tacit insights SADP staff and beneficiaries had gained were not captured and used to improve the operational arrangements for infrastructure management and extension activities. Given these considerable shortcomings, the rating for M&E is **modest**.

Lessons

- **Projects that seek to improve crop productivity and income on smallholder farms, in addition to CDD, work better when they integrate the two disparate objectives because of the very different implementation modalities involved.** Although there are valuable complementarities between small-scale community infrastructure investments (a typical CDD activity) and improving productive efficiency and market opportunities for small-scale cash crop producers, linking these objectives under one project seamlessly is difficult and costly. The counterpart for this project was a grower organization with no experience engaging in participatory development activities. In addition, the very small financial allocation to the CDD component and the lack of sufficient planning in setting up this process showed the importance of detailed preparation to any potential successful integration of these different project activities. For example, providing agricultural extension services and rehabilitation of market access roads are very different from CDD activities in their scope and composition. The SADP experience shows that combining these two elements into one project requires extensive planning, high-capacity partners, and multiskilled teams committed to in-depth understanding of their separate recipient communities.
- **Complex, multidimensional projects require additional oversight and support in environments with weak government implementation capacity.** SADP was an ambitious undertaking that sought to reinvigorate an important Papua New Guinea cash crop, develop the skills and abilities of one of the peak grower organizations through its project oversight, improve farm-to-market road networks, reform the extension services in the oil palm sector, and institute an extensive program for a small landholders' infill

planting program to respond to the milling companies' demands. Each of these intentions had a range of development problems and had to be tackled with different plans, approaches, and resources. Both the government and OPIC were unable to handle the complexity of taking on all of these issues at once. Including them in the SADP design caused significant delays, implementation problems, and inefficiencies that limited the project's impact. Given the capacity limitations of both the government and OPIC, prioritizing the primary development challenge in a straightforward design might have been a useful approach to ensuring better outcomes.

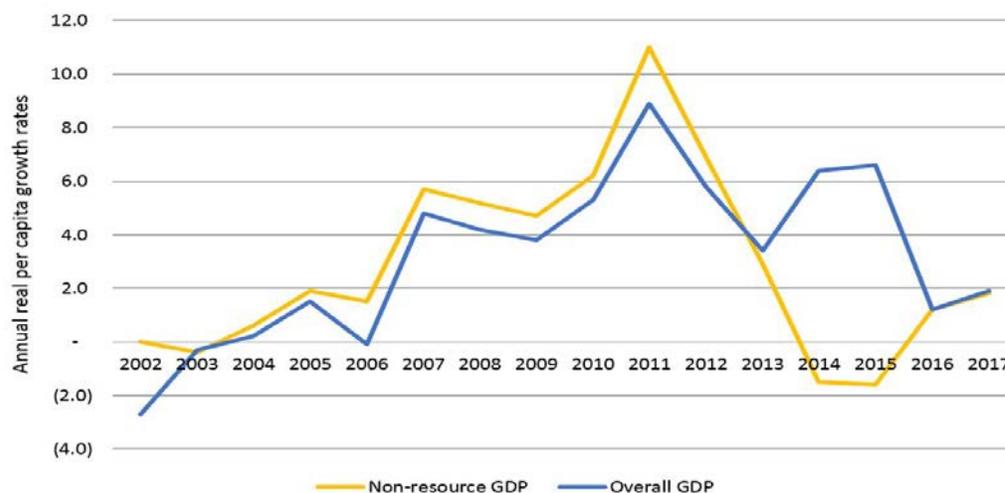
- **Creative operational approaches or sufficient institutional support is required in weak-capacity environments to ensure that project disbursements are distributed effectively.** Agricultural development projects in weak-capacity environments work best when teams find work-arounds and have a strong grasp of rules and requirements. Road rehabilitation was SADP's most successful component, and this activity brought out the best in the project team. With project funding, the team established investments in new equipment, collaborated with the milling companies, and sought operational support from other projects and provincial governments. For example, the purchase of the road graders and the negotiations about priority roads for rehabilitation showed that when project goals were clear, the team was ready to make things work and find creative options to operational barriers.
- **Understanding cultural impacts and how they influence agricultural cash crops in smaller, geographically isolated states is necessary to ensure that political constraints do not reduce the impact of World Bank projects.** SADP's operational challenges showed that contextual factors inevitably had a considerable impact on the project's success. The palm oil sector in Papua New Guinea is mature, well established, and highly political, and is characterized by local issues that are unique to the country, including land conflicts and the tradition of *wantok* (Melanesian tribal welfare system). Unlike similar palm oil operations in Southeast Asia that large-scale private operators dominate, the sector in Papua New Guinea has a history of land conflict and smallholder complaints, and it is influenced by government oversight and interference. The SADP experience showed the importance of local knowledge to effective design, project scope, and productive government relationships.
- **Agricultural sector road infrastructure investments need to be coordinated sufficiently with domestic private-sector interests and provincial government priorities to ensure sustainability and future operational maintenance.** The SADP road investments in rehabilitation were an effective response to the development challenge of transporting FFBS to the mills and ensuring that growers are paid for their outputs. However, the experience also shows that agricultural project investments work best when they are incorporated into existing operations and maintenance schedules, aligned to the immediate needs of local governments, and are responsive to private sector demand. Though it occurred late in the process, OPIC's work with the milling companies and provincial governments in coordinating road rehabilitation showed that they are useful partners in making agricultural development work in isolated regions.

Mr. José Candido Carbajo Martinez
 Director, Financial, Private Sector and
 Sustainable Development Department

1. Background and Context

1.1 Papua and New Guinea (Papua New Guinea) has faced considerable development challenges since its independence in 1975. The country has gone through a series of shocks in recent years and, though rich in resources, it continues to struggle to make progress on economic and social development, including the Millennium Development Goals and in reducing the marginal existence for a large proportion of its population. Papua New Guinea has large tracts of arable land, is rich in mineral, forestry, and fishing resources, and has considerable tourism potential. However, significant challenges offset the exploitation of these endowments, including high levels of ethnic diversity that promulgate land conflicts, high transport costs, and limited capacity in government and the private sector. Both the nation state and the modern trading economy are recent arrivals to Papua New Guinea. The country's gross domestic product (GDP) per capita has stagnated since independence, but the economy has grown robustly in the last decade. Although the long-term record is one of stagnation (figure 1.1), the record on growth in the last decade is much more positive (figure 1.2). Growth in Papua New Guinea in recent years reflects the resources boom and the impact of high commodity prices, which in turn has fueled a construction boom and growth in other sectors. However, short-term growth prospects remain unclear, and growth dampened considerably with the downturn in commodity prices after 2012 and overcommitted government spending programs that do not reflect tightening fiscal revenues.

Figure 1.1. Non-Resource GDP and Overall GDP Per Capita (2002–17)



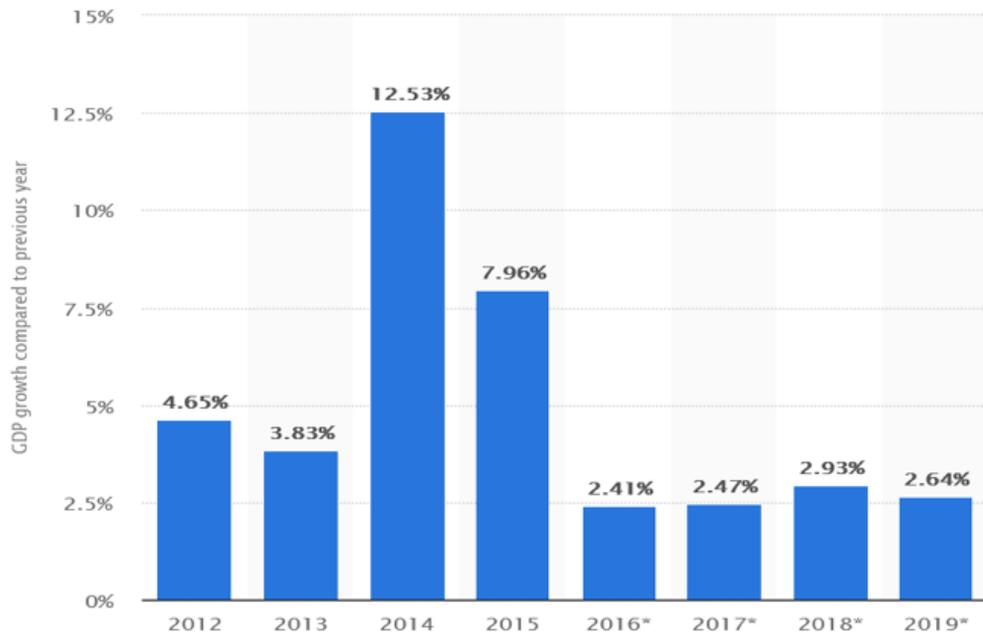
Source: World Bank.

Note: GDP = gross domestic product.

1.2 Human development indicators in Papua New Guinea are poor, and they have been and still are off-track on most of the Millennium Development Goals. The GDP growth rate has been variable (figure 1.2). Some indicators show improvement. For example, under-five child mortality fell from 94 per 1,000 live births in 1996 to 63 per 1,000 live births in 2013. Basic education indicators have also improved in recent years. Net enrollment ratios up to grade 8 increased from 51 percent in 2007 to 71 percent in 2013 for girls and from 54 percent to 77 percent for boys (UNICEF 2016). However,

social indicators for women are particularly low—maternal mortality rates are very high, levels of violence against women are high, and the country has only one female Member of Parliament). A generalized human immunodeficiency virus and acquired immune deficiency syndrome (HIV/AIDS) infection problem is growing at approximately 0.5 percentage points a year, and levels of tuberculosis and malaria are high. Notably, the percentage of people living in poverty is estimated to have risen from 24 percent in 1996 to 40 percent in 2009 (World Bank).

Figure 1.2. Gross Domestic Product Growth Rate, 2002–17



Source: World Bank.

Note: GDP = gross domestic product.

1.3 Papua New Guinea’s development prospects depend critically on the quality of its public institutions. The country’s formal sector is small, and its growth is very resource-intensive. About 85 percent of the population lives in rural areas and follows a largely subsistence lifestyle. Prospects for the majority in Papua New Guinea depend on the extent to which the public sector can convert government revenues from the resources sector into public goods (such as health, education, and roads) for the benefit of the largely rural population, and employment generation through growth in the labor-intensive and service sectors of the economy, such as agriculture, mobile telephony, and tourism.

1.4 Against this background, the World Bank sought to improve community participation in rural area development by supporting the established local palm oil production industry. Papua New Guinea’s agricultural sector contributes one-quarter of the country’s GDP, and palm oil is the dominant contributor to agricultural foreign exchange earnings, representing 43.2 percent of agricultural export values. In 2005, when the project was first considered, smallholder oil palm development was identified as the best vehicle for improving rural livelihoods. Considering the severe environmental damage issues associated with the development of new oil palm areas, the International

Development Association limited its support to smallholders in existing oil palm schemes, focusing on improving productivity and rural access roads in the targeted areas. The intent was for these actions to translate into higher incomes for smallholder oil palm producers and have a positive impact on the livelihoods of others in the project areas. Papua New Guinea's palm oil industry contributes substantially to rural incomes in the country, though it represents only 1 percent of global production. At 2012 current prices, oil palm provided smallholders with highly favorable returns on their land and labor (K 2,793 per hectare and K 130 per day worked) compared with other cash crops such as cocoa (K 1,136 per hectare and K21 per day worked) and coffee (K 2,058 per hectare and K13 per day worked).¹ The industry is second to only the public service in formal employment, and about 16,000 people work for the six milling companies. In 2012, approximately 18,500 smallholders supplied the palm oil mills with fruit.

1.5 The Smallholder Agricultural Development Project (SADP) was designed to be implemented in the Oro and West New Britain provinces over five years and intended to improve the supply chain for farmers, increase incomes, and ensure viable access to stimulate latent growers. The majority of project funds (70 percent) were to be invested in reconstructing existing rural roads to improve access to critical social services and markets for all smallholders, not just those involved in the oil palm sector, thus enabling the local population to access a wider range of income-earning activities and diversify their incomes, and thus reduce poverty.

2. Objectives, Design, and their Relevance

2.1 The objective of SADP in the financing agreement (July 2008) was as follows: "To increase, in a sustainable manner, the level of involvement of targeted communities in their local development through measures aimed at increasing oil palm revenue and local participation."

2.2 The key project development objective (PDO) indicators were an increase in smallholder income from palm oil production, and an increase in the level of funds and resources invested by local communities in their local development.

2.3 The project had the following three components: smallholder productivity enhancement (appraisal \$55.5 million, actual \$15.72 million), which included smallholder oil palm development, road works, and agricultural extension; local governance and community participation (appraisal \$3.1 million, actual \$0.0), which included the provision of local services and infrastructure; and project management and institutional support (appraisal \$6.5 million, actual \$9.69 million), which covered support to the Oil Palm Industry Corporation (OPIC) and its oversight of guidance to local field teams.

2.4 The project underwent two level-2 restructurings. The first took place in June 2012 (Financing Project Paper, September 2012). Component 2 was dropped because of OPIC's limited capacity to deliver on improving community capacity, and because of significant delays in the road maintenance investments. The project team justified dropping component 2 because it was only a small financial commitment to the design had limited impact on the PDO. This is difficult to gauge given the PDO's confusing

composition, but component 2 did affect the contribution to the activities covered under component 1.

2.5 The PDO's wording remained unchanged, but there were changes to key performance indicators to reflect changes in the project's scope. In particular, several of the activities under component 1 were scaled back because of a shortfall in funds arising from the appreciation of the Papua New Guinea kina against the U.S. dollar, an increase in local costs, and insufficient counterpart funding. The infill planting target was changed from 3,500 hectares to 2,500 hectares, and road rehabilitation was reduced from 547 kilometers (PAD p.29) to 190 kilometers in addition to 13 kilometers of incomplete roads in Oro.

2.6 The second restructuring took place in November 2013 to reallocate credit among the disbursement categories. This was intended to concentrate efforts on the project's road maintenance aspect and reduce the allocation to consulting services and training, which were not being utilized as planned.

2.7 Relevance of objective. The SADP aligned at implementation with the World Bank's country partnership strategy for 2008–11 and at completion with the World Bank's country program strategy for FY2013–16.

2.8 Papua New Guinea's medium-term development strategy for 2005 to 2010 presented a vision of the country's development goals and the government's approach to achieving them with the aim of "fostering sustainable improvements in the quality of life of all Papua New Guineans by promoting economic growth and social development," according to the country partnership strategy (CPS) for 2008–11. This was incorporated into the World Bank CPS through two pillars: promoting and maintaining sound economic and natural resource management, and improving livelihoods and service delivery, especially for the rural poor. The SADP is conducive to the objectives of pillar II of the CPS with its focus on the following: supporting development of the private sector as the engine of growth, focusing on the business environment, niche industries, and public-private partnerships; enhancing rural livelihoods, particularly in the oil palm and artisanal and small-scale mining sectors; and improving local service delivery through community-driven development approaches and other innovative service delivery models that strengthen local governance (CPS 2008–11).

2.9 The project was also aligned with both the Papua New Guinea development strategy and the World Bank CPS at completion. The government of Papua New Guinea's development "Vision 2050" is "to reform and align institutions and systems to make Papua New Guinea become a smart, wise, fair, healthy, and happy society" through effective service delivery, human resource development, wealth creation, and sustainable development of natural resources. Vision 2050 prioritizes four key policy objectives: (i) sustain prudent fiscal and macro management; (ii) nurture development of entrepreneurial culture and vibrant business environment; (iii) reverse the regressive conditions of human development; and (iv) support the seven identified medium-term development "key enablers," including transport infrastructure, key utilities (energy and communications), education, health, unlocking land for development, and law and order. SADP's targeted

support to the palm oil sector aligns with both the development of business and the focus on human development, particularly in marginalized communities.

2.10 In addition to the support provided to the government's Vision 2050, SADP activities directly supported the World Bank CPS' strategic area covered by pillar 2: gender-equitable improvements in lives and livelihoods. Pillar 2 was committed to improving the productivity and profitability of smallholders growing cash crops, productivity gains for rural households growing food crops, improved sustainability and resilience to price and weather volatility, and improved market chain infrastructure (Papua New Guinea CPS 2013–16, 16–17).

2.11 However, the objective seeks to increase smallholder involvement in their local development by increasing palm oil revenue, but there was no “how” or “through” in the PDO, making it difficult to understand how the project intended to achieve an impact. The objective also lacked a reference to the causal chain. The word “measures” was vague. If 70 percent of the investment was for building roads, then the objective might have been pitched better as a market access objective, but this would be lost in the effort to incorporate a community-driven development (CDD) element that was linked vaguely to participation in local development. The explanation for the objective could have described the binding constraints to growth in the smallholder sector, thus justifying the approach, or it could have described the bundle of constraints that would have addressed revenue generation. However, it did not do either, and although there is alignment with both the country's own development priorities and the World Bank's strategies, the relevance of SADP's objective has substantial shortcomings and is thus rated **modest**.

2.12 Relevance of design. SADP was designed to be implemented through two components. The first focused on improving smallholder revenues through productivity increases and improvements in road access for transporting fresh fruit to oil mills, and the second sought to improve local governance and community participation. As outlined in the project appraisal document (PAD), both components were to be delivered over five years in the targeted, established palm oil growing regions of Oro and West New Britain provinces. Each of the core assumptions embedded in the presumed theory of change for this approach link to the designated activities. The framework shows a logical causal chain, but the interaction between the elements is somewhat problematic given the presumption that smallholder growers are not necessarily representative of the community targeted through the participatory component. For component 1, the design logic linked the rehabilitation of roads to increased market opportunities for palm oil production. It also linked extension activities to productivity improvements, and training to increased environmental awareness and fewer cases of noncompliance in environmental audits. This aspect sufficiently identified a development gap and sought to respond with a range of ways to lift production and incomes. Component 2 was even more problematic. It focused on community participation and governance and outlined the need for community engagement, local government service delivery, and small-scale project support.

2.13 The envisioned results of both components were suitably outcome-focused with an emphasis on increased revenues, improved production, and enhanced community participation, but the justification for linking the two project components was not as

apparent as it could have been. The PAD identified the need to link increased farmer income opportunities to government service delivery to integrate the palm oil communities into the economy better, but this did not necessarily require a community-driven approach. Lessons from previous donor projects show that the government's Department of Works needed to develop greater accountability among its constituents to remain sufficiently responsive to the needs of the rural population, and farmers needed to see benefits from engaging in the formal economy to improve the productivity of their farms. However, there was insufficient clarity in linking these needs to a community engagement approach, particularly in Papua New Guinea, where disparate communities and clans were not always cooperative in their interactions. The integration of these assumptions was articulated in SADP's theory of change and was reflected in the results framework (PAD, annex 3), but the community engagement aspect was always going to be difficult in an environment with limited government visibility and few organizations capable of overseeing a facilitated participatory process.

2.14 Consequently, although the premise of SADP's approach was sound, the design had two substantial shortcomings. First, the link between improving government service delivery with a CDD approach that focused on small community grants was unrealistic. Local-level government in Papua New Guinea was poorly funded and had low capacity and limited incentive to engage in participatory programs involving multiple stakeholders (AusAID Road Maintenance program 2005). The decentralized governance structure was immature and had limited responsibility in delivering services, and there were no obvious organizations capable of taking on a CDD model's complex logistical aspects. Although the link between components 1 and 2 made sense regarding developing integrated solutions for getting producers' palm oil to market, the assumptions central to a CDD approach were not aligned to existing conditions in the field.

2.15 Second, the project did not sufficiently explore the options for improving yields in its theory of change. The analytical basis for the project was sound and identified the need to shift small growers' awareness of production barriers. Although technical knowledge, crop management, and quality control were all constraints, access to capital and the replacement of trees was also required. This was not incorporated into the extension program sufficiently, which left many growers with limited room for improvements in yields. Given these substantial shortcomings, the rating for relevance of design both before and after restructuring is **modest**. This was an overcomplex design that included a CDD model in an agricultural project that might have been served better by addressing the multiple constraints that farmers faced and that were delinked from "participation" (farmer access to finance and tree replacement).

3. Implementation

3.1 SADP was slow to start for a variety of reasons. The project had already suffered delays in the design period caused by the 2003 suspension of the World Bank-funded Forestry Conservation Project (cancelled in June 2005). All project preparation activities in Papua New Guinea were put on hold between August 2003 and September 2005 because of the Forestry Conservation Project's suspension. When the design was complete, further delays occurred between board approval in December 2007, the legal agreement signing in July 2008, and effectiveness in January 2009. These delays resulted

from continued conflict between the World Bank and the government over the cancellation of the Forestry Conservation Project, and the slow appointment of OPIC board members who were required for the project's oversight.

3.2 Delays and management shortcomings. More issues arose after the project was under way. First, the significant delays exposed the project to a dramatic currency appreciation in the Papua New Guinea kina (30 percent) and an escalation in costs caused by the resource boom and linked to natural gas investments. In parallel, the provision of counterpart funding was not forthcoming. The concurrence of these events led inevitably to a reduction in the project's scope.

3.3 Second, there were issues with the project's oversight and management. This led to the delayed recruitment of procurement consultants, palm oil extension specialists, and road engineers. Discussions with OPIC and with the project team in Papua New Guinea revealed that the project coordinator attempted to rectify some of the specific tasks that were preventing procurement from moving forward. However, progress was slow in a project operating environment that lacked sufficient personnel who could circumvent government barriers in delivering against the project's components. Management issues included both political and operational problems. The government could not agree on a preferred candidate for general secretary of OPIC, thus requiring a long-term acting arrangement to be put in place. Without a clear mandate, OPIC was reluctant to make significant operational decisions. Low motivation among OPIC field staff compounded operational issues—staff members were not receiving the resources necessary to do their jobs, and their low compensation had been an issue for many years. High staff turnover was also a problem because of low capacity among project staff members who were not well equipped to deal with the project's complexity. In addition, skilled labor shortages and the misappropriation of funds made it difficult for the team leader to initiate the project's strategy.

3.4 Third, the project steering committee (established to support OPIC and tasked with project planning and implementation) did not meet regularly to discuss progress and to deal with operational issues. This prevented any response to the contractual delays, road construction problems, and the chaotic start to palm oil extension activities in targeted areas. The barriers to the effective operation of the steering committee were explained during the evaluation team's meeting with the Ministry for Planning. Initially, the steering committee was tasked with formulating the structure and arrangements for the community development component. Members of the committee were unclear about what the planning would entail and reticent about the time commitment for the task. Most important, there was little incentive for various planning committee members to correct managerial issues (which were within their responsibility) given the limited reward. Similarly, OPIC was not proactive about formalizing the project steering committee arrangements.

3.5 Inspection panel report. Finally, to compound these implementation challenges, there was conflict between the project and smallholders in three project areas that ultimately resulted in an inspection panel case in December 2009. The Center for Environmental Law and Community Rights, which was a representative of the Ahora/Kakandetta Pressure Group, submitted the case. It included claims that the project

had violated policies and procedures under OP1.00, OP4.01, OP4.10, OP4.36, OP4.04, OP10.04, and OP13.05 (inspection panel report 64458-PG). In summary, the project was criticized for a lack of consultation with local communities regarding the prioritization of infrastructure works and the potential impact of expanding infill and crop growth corridors. In response, World Bank management agreed to the following: correcting inconsistencies between the project implementation manual and the environmental management plan; ensuring that OPIC adheres to environmental commitments outlined by environment and land officers; instituting broader discussion on major activities during implementation; and developing adequate, independent social and environmental audits.

3.6 The World Bank commitments to the report were covered in the inspection panel progress report 2011, where it was acknowledged that “adequate consultation, respecting customary structures and languages and allowing prior access to project information, would have had a significant impact on the design and implementation of the SADP” (inspection panel report 64458-PG). Local stakeholders felt that the project’s slow progress led to a lack of consultation and prioritization of works over sufficient environmental planning. Improvements against the initial recommendations were made throughout the project, but the inspection panel report is clear in its conclusion that “the failure to adequately adhere to safeguard policies adversely affected the project’s outcomes” (inspection panel report 64458-PG).

3.7 Political constraints with OPIC. The governance of OPIC also affected implementation. The IEG evaluation team’s discussions with industry representatives revealed that internal politics within OPIC affected their ability to move SADP forward. Various attempts were made to change OPIC’s mandate both before and after SADP, including efforts to impose compulsory levies on growers, install infrastructure responsibilities, expand its oversight responsibilities, and institute an extension program mandate. These attempts at change often put the government in conflict with palm oil processors, which hampered progress with growers. In a field interview with oil palm industry associate, the former senior member of the sector’s representative body noted, “The slow uptake in embracing infrastructure support, onerous bureaucratic requirements, and overreach in its mandate made growers and producers suspicious of OPIC’s ability to move the industry forward.” This was reinforced in discussions with World Bank counterparts, who acknowledged, “The power vacuum within OPIC took the wind out of the sails during the early stages of SADP; we wanted them to be focused on putting in place the necessary people to get activities moving, but they were more engaged in political struggles with government ministries and decisions on who would chair the council.” The government had a vested interest in getting the right leadership team for OPIC, but the slow process hampered the organization’s ability to sufficiently respond to SADP’s operational demands.

3.8 Fiduciary aspects. There were numerous procurement problems during implementation. Financial support staff in the regional office constantly had to revise the procurement documentation submitted to the World Bank for processing. In addition, the government’s Central Supply and Tender Board (CSTB) had to approve large contracts, and the board’s lengthy procedure exacerbated implementation delays. Amid the delays, the procurement specialist was changed five times during the project, making it difficult

to keep up with demands and for new specialists to become familiar with World Bank regulations. This resulted in the need for expensive oversight (required by the regional office in Sydney) and variability in systems and approaches.

3.9 On the regulatory side, OPIC did not comply with the World Bank's audit reporting rules or the formal requirements associated with the 2012 restructuring. Audits were submitted late, and certificates for 2011 and 2012 were more than two years in arrears. IEG's evaluation team discovered that the regional team required regular financial support and advice, particularly in planning procurement schedules. Even with this support, OPIC still struggled with approvals for its procurement documentation, thus compounding managerial shortcomings.

3.10 In many instances, delays in contracting, processing, and delivering equipment caused significant problems with the infrastructure works. Various interviewees were critical of this aspect of the road maintenance component, arguing that OPIC took too long to act on the specific needs of the designated targeted areas. In discussions with the road project team that the Australian Agency for International Development (AusAID) funded, it was apparent that SADP failed to draw on the work being done through the joint donor-funded road maintenance facility in setting up procurement arrangements aligned to the government's planning ministry model. In the end, the pressure to ensure construction progress led to awkward work-arounds. OPIC failed to set up efficient ways of meeting fiduciary protocols, and this ultimately contributed to the abandonment of component 2 activities.

3.11 Environmental and social safeguards. The project at appraisal was assessed as a category B project with the following six safeguard policies triggered: Environmental Assessment (OP/BP 4.01), Forests (OP/BP 4.36), Natural Habitats (OP/BP 4.04), Pest Management (OP 4.09), Involuntary Resettlement (OP/BP 4.12), and Indigenous Peoples (OP/BP 4.10). The inspection panel identified a range of issues, but compliance with social safeguards was satisfactory. Conversations with the implementation team implied that project activities did not cause any specific damage to crops or physical infrastructure. Road projects underwent extensive consultations with communities before construction, and HIV/AIDS awareness seminars were conducted in collaboration with the provincial AIDS councils, reflecting the good practices already under way in various road-building projects elsewhere in the country. A social assessment that OPIC organized toward the end of the project (October 2012) outlined positive benefits from the proposed project activities on the targeted areas, though what these benefits were was unclear, and the report could not be found despite the evaluation team's many attempts to access it.

3.12 Environmental and social audits conducted in 2012 and 2013 showed improvements in the application of standard policies and protocols, but shortcomings remained. In addition, the project was involved in a partnership with the European Space Agency (ESA) to monitor land use and forest cover change (ESA-World Bank Partnership Report 2013). ESA reporting showed that the project had no adverse impact on SADP forest areas, and there was no additional forest destruction. This reinforced the commitment in the original design to improve the efficiency of existing palm oil areas rather than expanding growing regions.

3.13 The remaining safeguard issues concerned the plantation approval requirements and the palm oil effluent action plan. The conditions that the plantation approval form required for both training and cultivation practices were not always met. This did not improve until an extension specialist was recruited in late 2013 to monitor these issues. The environmental impact of palm oil effluent was also a potential safeguard problem given the increased volume of product being processed at the mills. The delays in getting safeguards consultants in place made baseline assessments for effluent late, and there was a slow response to regulatory requirements. However, the milling companies supported the need for compliance with Papua New Guinea regulatory requirements. This meant there was private sector support to growers to ensure that appropriate practices were followed and performance was improved in the project's later stages because the extension specialist support was forthcoming. In conversations with the milling companies, effluent management and sustainable practices were seen as part of the broad commitment to ensure best practice in Papua New Guinea palm oil production. The international reputation of Papua New Guinea's palm oil industry shows that the companies were keen to follow and support the Department of Environment's Code of Practice to ensure meeting international benchmarks (<https://www.forumpalmoel.org/>) which enabled producers to sell on the palm oil certified market.

3.14 Capacity constraints. The project had serious shortcomings regarding institutional capacity and managerial oversight. Beyond the issues covered in paragraph 3.2, the feedback from in-country bilateral partners revealed a range of issues in both choosing and engaging with delivery partners. The Ministry of Agriculture and OPIC had a difficult relationship, including many disagreements on funding arrangements. The ministry had developed strong ties with the Australian Centre for International Agricultural Research (ACIAR) to enhance productivity in commercial agricultural production. This resulted in 35 different projects in the agriculture space, including various research initiatives with the Papua New Guinea Oil Palm Research Association Inc. (OPRA), a company aligned strongly to the private sector, particularly to New Britain Palm Oil Ltd. The two had a history of working together on extension activities for smallholders and in research on pests and productive palm oil varieties. Growers embraced much of this work, which contributed to crop improvements and led to improved yields. The problem was that the agriculture ministry was used to dealing with OPRA and ACIAR directly, without including OPIC as a partner. According to interview respondents (which included bilateral partners and the Agriculture Ministry staff), this drove a wedge between the government and OPIC, who felt that the work undermined its sectoral oversight. It also resulted in considerable investment in expertise within OPRA, often at the expense of OPIC, where capacity was less technically proficient. This exacerbated the managerial issues SADP had with OPIC, resulting in further delays and political conflicts that affected progress.

3.15 The World Bank team was responsive to these issues, seeking to broker discussions between the ministry and OPIC. However, there was no coordinated strategy for building OPIC's capacity. The World Bank team explained that training for OPIC staff on World Bank systems was not sufficient to overcome the capacity deficit, and the World Bank task team leader was increasingly forced to supplement the limited capacity with regional support staff in Sydney to deal with standard operational issues. The extended World Bank team sought to institute guidance and oversight to fill capacity

gaps, but the breadth of tasks and the extent of operational priorities made this very difficult, particularly within the project's limited supervision budgets.

3.16 **Monitoring and evaluation.** The implementation of the monitoring and evaluation (M&E) system was slow and incomplete, particularly regarding the undertaking of baseline assessments, setting up the management information system (MIS), and data utilization. As explained in the design's M&E section, the arrangements for M&E were overambitious, and this affected implementation arrangements. The scoping of the baseline work outlined in the social assessment was not adjusted appropriately to reflect the emphasis on pragmatic systems suited to those in the project coordination unit and in the ministries. The MIS developed was inappropriate for its intended purpose with shortcomings in its utility and its management of the project data sets. It did not adequately capture and track the kind of results needed and did not provide sufficient information for the project management team to make necessary adjustments during implementation. The IEG team learned from reviewing the various monitoring reports that there was no coordinated and consistent information collection, and that various changes made during implementation resulted in a poorly integrated system that did not give the program management what it needed to make operational improvements.

4. Achievement of the Objectives

4.1 The original development objective of SADP in the financing agreement (July 2008) was as follows: "To increase, in a sustainable manner, the level of involvement of targeted communities in their local development through measures aimed at increasing oil palm revenue and local participation." The PDO indicators included an increase in smallholder income from palm oil production, and an increase in the level of funds and resources invested by local communities in their local development. In this report, unpacking the PDO proved difficult given the vagueness of terminology such as "level of involvement." Thus, the objective was treated as a single outcome, but was divided into progress on palm oil revenues and increasing local participation. These elements were intended to contribute to "local development," which this report treats as the ultimate outcome.

4.2 The PDO was not revised at the restructuring in June 2012, but the indicators were changed to reflect the eliminated component on local governance and community participation that was to be delivered through a CDD approach. This effectively left the project with only one component (smallholder productivity enhancement), given that component 3 was project management and institutional support. The PDO is measured against the intended indicators of increased revenues and increased local participation.

4.3 **Objective:** Increase, in a sustainable manner, the level of involvement of targeted communities in their local development through measures aimed at increasing oil palm revenue and local participation.

4.4 **Increasing palm oil revenue.** The project's program theory was built on improving roads to increase market access, providing extension services, and supporting planting to increase smallholder grower production, thus increasing smallholder incomes. Interim indicators were provided and then collected for these three aspects of the project's theory

of change in the project monitoring reports and were covered in detail in the project's ICR. Progress against these elements was as follows:

- Rural road rehabilitation: The original target was to rebuild and/or rehabilitate 547 kilometers of roads among those identified as essential in the 2,000 kilometers condition survey encompassing the entire smallholder network. The scope of works was to incorporate both pavement and drainage works. These plans were revised in the OPIC 2011 initial repair program that designated specific regional works, including road construction and spot repairs. The targets were then lowered in the June 2012 restructuring (as outlined in paragraphs 2.5–2.6) to encompass 190 kilometers of road improvement and 13 kilometers of new road in Oro province. A total of 223 kilometers of road were ultimately repaired, of which 43 kilometers were graveled, and the remaining portion were road improvement. This was 117 percent of the revised target instituted at the restructuring, but only 41 percent of the original target.
- Infill planting: The original target of 9,000 hectares was reduced to 2,500 hectares under the restructuring. At project completion, 1,006 hectares had been planted in the three regions of Hoskins, Bialla, and Popondetta. This represents only 40 percent of the revised target and 11 percent of the original target.
- Extension services: There was no appraisal target for the number of farmers trained. The emphasis was on the provision of necessary extension services with the outcome being improved yields of 15–19 percent. At the 2012 restructuring, a new target of 1,500 growers trained was instituted, which was met. Documentation was not available on the composition or targeting of the training approach, but conversations with palm oil milling operators and the OPIC support staff confirmed that there were changes to both the strategy and resourcing of extension support in the field. In addition, yields for smallholder growers increased by 54 percent between 2006 and 2013 (the project period) from 15.2 tons per hectare to 23.37 tons per hectare (according to the project monitoring reports). This was well ahead of the target of 15–19 percent, though the link between extension services and the changes was also affected by milling company efforts to support secondary growers better and a commitment to more regular fresh fruit bunch (FFB) pickup services.
- Increase in smallholder income: The cumulative contribution of these interventions was to increase palm oil revenues and thereby increase smallholder income. Smallholder palm oil incomes increased from K 75.1 million in 2006 to K 287 million in 2011, K 204 million in 2012, and K 287 million in 2013 compared with a target at the project's close of K 96 million. Across the three relevant years, the target was exceeded by a substantial margin (131 percent achieved in 2013—the lowest income year on record), indicating a strong improvement in incomes.

4.5 Although these data provide an overview of the measurable outcomes against improved smallholder palm oil incomes and revenues, five notable shortcomings influenced progress against the targets. First, the extension services that OPIC normally provided had been inconsistent and underfunded for some time before project appraisal.

Salaries paid to extension workers had stalled and had been unchanged since 2004. The evaluation team found that this had the dual effect of demotivating staff and forcing others to find additional paid employment. OPIC's organizational structure for extension staff was problematic, and there was a strong push from the milling companies to take over the delivery of extension activities. The OPIC board was not operational then because the government had not appointed board members. This led to a decision-making vacuum that prevented activities from moving forward. Conversations with milling company officers and executives revealed the extent of the frustration regarding the lack of sufficient support to extension activities. Fuel availability for vehicles was sporadic, staff absenteeism was rampant, and there were employees past the retirement age who were still drawing wages but were not providing service. The SAPD project team instituted a range of changes that improved the responsiveness of support to growers, but it took a long time before reforms to OPIC's extension activities led to changes in growing practices and the marginal improvements in palm oil production.

4.6 Second, the infill program was beset with various shortcomings resulting from OPIC's slow response to project implementation and delays in processing infill loans for growers to access seedlings. Discussions with the task team revealed that the delays resulted in an inconsistent supply of plants from the milling companies after OPIC started to roll out grower support and further frustration between SADP and the milling companies, which were troubled by the inspection panel investigations into effluent discharge that accompanied the project. In discussions with milling company executives, the evaluation team found that problems were largely due to the lack of direction and communication regarding the rollout of project activities. The milling companies were eager to lift production because designated grower prices ensured their profitability, but the inconsistent messages from OPIC made it difficult to plan appropriately. This led to a suspension of the infill program in Hoskins and slow uptake among growers in other regions.

4.7 Third, project management and implementation were extremely weak. As outlined at length in the Implementation Completion and Results Report (ICR) and in the various supervision documents, there were constant procurement delays in the early part of implementation. These delays were driven by limited understanding of bidding document requirements, poorly conceived planning processes, lack of awareness of World Bank procurement guidelines, internal tensions among OPIC staff, frequent changes in procurement staffing, and a slow response from the CSTB, which was responsible for all government procurement approvals. The project steering committee, responsible for strategic planning and implementation did not meet regularly and had not met at all before the midterm review. Discussions with team members revealed that this gap effectively left administrative tasks to the project office, which could not absorb this level of responsibility in addition to its other obligations. Procurement problems led the project team to seek support from the regional World Bank office and were a key factor in the 2012 restructuring.

4.8 Fourth, Papua New Guinea is a disaster-prone country, and the SADP province of Oro suffered considerable damage to its road rehabilitation during Cyclone Guba in November 2007 and extensive flooding in November 2012. These events delayed the road rehabilitation works and detracted from the infrastructure plan because resources

were diverted away from strategic investments to supplement disaster relief. In conversations with bilateral infrastructure partners, the challenge of remote rehabilitation works was raised as a barrier to strategic investment. The challenge was ensuring that large plant and road teams were not diverted to other activities, and that teams in the field did not change the work schedules. Contractors regularly faced requests from local governments for additional works and pressure for payment from communities opposing approved works. Additionally, OPIC, which was resource-constrained, did not supervise these contractors adequately. These were all well-known challenges that bilateral colleagues understood to be part of the cost of doing business, but SADP procurement planning and supervision did not address these challenges sufficiently.

4.9 Finally, the relationship between the milling companies and OPIC was fractious. Dialogue was constructive at times, and the companies embraced SADP's premise, but there were also divisions. The milling companies complained at length about OPIC's inability to acknowledge its operational constraints and work more closely with the milling groups. The list of potential synergies included sharing of plant and equipment; splitting tasks in the infrastructure plan; integration of extension activities; partnering in community engagement; and clarity about environmental and social responsibilities. The milling companies had little ownership of the project, and this compounded the SADP team's logistical challenges and restricted progress against outcome targets.

4.10 Increasing local participation. In the original design, the second aspect of the PDO was progress against increasing local participation in local development. The theory of change sought to improve the provision of local services and infrastructure in the two provinces of Oro and West New Britain through a participatory CDD approach. The intervention was based on the need for additional local government services. Small grants were to be used for small-scale infrastructure through the development of community-based organizations that would initiate a participatory process to determine the nature of projects. OPIC was to play a central role by coordinating the outreach and would be supported in growing its own capacity to manage the relationship with community organizations.

4.11 The community development component was dropped in the June 2012 restructuring, which became effective in September 2012. Several factors affected the change in project components. First, OPIC was a weak organization without the skills needed to procure, organize, and oversee a complex CDD program, particularly one in which the intention was to build from the extension support provided to growers. In discussions with both the project team and other donors working in the sector, the consistent message was that even basic, direct support to growers was still going to be difficult to coordinate for OPIC. Previous project support overseen by OPIC had been targeted strategically with emphasis on extension activities and brokering relationships between the mills and small growers. OPIC had a role in mediating aspects of various projects, but it had not been the oversight partner in any of the previous large project investments. The governance of OPIC had been difficult and had regular funding shortfalls, infighting among the board, and regular political interference. Coordinated joint activities with the Oil Palm Council, the Oil Palm Producers Association, and OPRA had seen success, but in the period leading into SADP, the OPIC governance

structure was weak and could not oversee large infrastructure works along with a community development program.

4.12 OPIC was reviewed in the institutional assessment of the social assessment report prepared for SADP, and though OPIC was recognized as having good relations with growers, there were acknowledged budget issues, a board that met rarely, a narrow set of managerial skills, and limited strategic focus (Curry et al. 2007). OPIC was credited for its ability to work with the milling companies, but there were identified relationship issues with growers who felt they were not represented in arguing for more resources to repair roads and provide services. In particular, according to page 83 of the social assessment, “In an environment of declining government funding for essential infrastructure such as roads, OPIC’s relationship with smallholders came under great pressure.” OPIC was constrained by funding, falling staffing levels, and narrowly defined responsibilities. These were not the ideal circumstances in which to absorb the responsibilities associated with a CDD program.

4.13 Second, the project design was not aligned sufficiently to the scoping report undertaken to investigate the options for CDD in Papua New Guinea. The social assessment report recommended the potential of local governments to work with community groups for the delivery of basic public services, but it acknowledged that any program would require considerable support to these local governments to ensure that coordination was possible (Curry et al. 2007, 88). The report recommended using experienced community partner organizations to work with government in the delivery of services. Potential groups for this task could include established church-based groups (the Anglican and Catholic churches, for example) that had experience in delivering community-level projects. In taking the social analysis to encapsulate a broader role for OPIC, the design ignored the importance of building OPIC’s strengths through other responsibilities, and it meant circumventing the very organizations that had the experience to engage at the community level, namely established church groups.

4.14 Third, the design did not allocate enough funds to the community activities, resulting in limited interest in making this aspect of the project work. The total allocated budget in the appraisal documents was only 6 percent of the planned \$54.2 million. This did not provide enough funds for the necessary support elements of delivering against the component, nor was it realistic in getting OPIC’s attention given its involvement in the infrastructure investments covered under component 1. Various reasons were put forward for the failure of making the CDD component work, but the limited budget and ill-conceived design were fundamental to why this was abandoned during the restructure.

4.15 Given that the second component was dropped with no progress in instituting a CDD program, there are few measurable achievements to report against the objective of increasing local participation. The intention in the design was to track the percentage of people in targeted villages who were satisfied with their participation in local-level decision making, record the number of subprojects completed, and measure the contributions of locals to the subprojects mobilized. Progress against these indicators was negligible, and although the ICR sought to claim some progress on local participation through the other components (ICR pg.19), this is difficult to argue based on documentary evidence and discussions with the project team and other stakeholders. The

project's CDD element was ill conceived and had little to no impact on project beneficiaries.

4.16 SADP's objective was based on a theory that increased oil palm revenues and greater community participation would lead to enhanced local development. The project had a range of shortcomings that limited its contribution and prevented it from engaging in community-driven activities intended to enhance local participation, but it provided stimulus to targeted areas through improvement in essential roads and extension services. This contribution resulted in marginal improvements in oil palm revenues (see paragraph 4.4) and better access to milling services. The project also had considerable shortcomings operationally and in meeting the PDO targets. Fluctuations in oil palm prices and the value of the kina affected the increased incomes significantly, which made project attribution difficult. Significant changes to the PDO indicators that took place at the 2012 restructuring affected the measure of performance against targets. Consistent with the guidance for completion report ratings, it makes sense to use a split rating for achievement of objectives (efficacy). In this case, the rating is **negligible** for the period before the 2012 restructuring (the second restructuring was minor and was instituted to extend the project) and **modest** for the post-restructured period.

5. Efficiency

5.1 Financial and economic efficiency. Oil palm is a tree crop requiring a gestation period of three to four years, and stable yields are reached in seven to eight years. Mature trees have a productive life of approximately 25 to 27 years, though care and maintenance are significant factors in tree productivity. Thus, in determining the project's financial viability, there is a range of notable assumptions, particularly regarding the utility of newly planted trees. The financial analysis assumes yield projections based on real data from the areas of Hoskins, Bialla, and Popondetta, where management practices reflect those operating across the project region. Fertilizer application, labor input, and material costs—all of which determine plant yield—were assumed to represent the average for all districts under palm oil production. For ex-ante calculations, intercropping was an assumed practice in areas of infill, and the farm gate price was taken as the average of FFBs in 2006 in constant dollars and across two years in 2011 and 2012. The analysis and the associated assumptions were consistent for both the appraisal and in the ex ante calculations conducted for the ICR.

5.2 Ex ante. The financial rate of return as calculated in the appraisal document in annex 9 (page 79) is for smallholders in Hoskins, Bialla, and Oro. The rates are 27 percent in Hoskins, 24 percent in Bialla, and 22 percent in Oro, and these are higher rates of return than any smallholder investment alternative. They reflect returns over a 23-year productive period and vary based on differences in oil palm yields and oil palm prices in the three regions. The economic rate of return for the same three regions is estimated at 18.3 percent in Hoskins, 13.2 percent in Bialla, and 17.2 percent in Oro. These calculations are made against the designated infill targets that are outlined in the appraisal document, and benefits including planting of oil palm, increased FFB collection, savings on the FFB collection fleet, and the additional plantings in Oro province. The project costs include the road rehabilitation costs, provincial road maintenance costs, seed capital for the road maintenance fund, project management costs, and the OPIC extension

service costs. The overall project economic rate of return at appraisal is 16.7 percent, without accounting for any returns aligned to the community development component.

5.3 Ex post. The financial rate of return for the project regions ex post were estimated at 27.9 percent for Hoskins, 23 percent for Biialla, and 22.6 percent in Oro, with an overall average return of 24.6 percent. Even under the constrained conditions of drought and falling prices applied in the sensitivity analysis (ICR annex 3, page 41), rates were still substantially higher than the project costs and could yield robust returns. The economic rate of return was 18.4 percent with a benefit-to-cost ratio of 1.35. The net present value of the project's investments was calculated at \$12.7 million. These results are consistent with the ex ante analysis. However, with considerably less infill planting and reductions in the provision of roads, the results reflect the weakness of not collecting data to compare real versus assumed gains scenarios in the calculation of returns. The combined effects of production and price changes had a considerable impact on the project's returns. However, the association between project activities and production increases is still inferred and limits the evaluation team's ability to understand which of the project's aspects were most important to the changes and whether the project was the determining factor in the robust returns to growers.

5.4 Administrative efficiency. As outlined in section 3, paragraphs 3.2 to 3.10, the project endured considerable shortcomings in its operational and administrative efficiency. The implementation delays were central to the cancellation of component 2 and determined the nature of the 2012 restructuring. Changes to targets instituted at restructuring were due mostly to project inefficiencies, particularly on the procurement side. A 14-month delay between board approval and credit effectiveness was due to problems in the relationship between the government and the World Bank. A majority of those interviewed by IEG pointed to the significance of delays in staff recruitment and retention, consultant capacity issues, road planning delays, asset purchasing problems, and general mismanagement of the basics of project oversight. This had an impact on the project's efficacy, but it also had a detrimental impact on the activities' cost effectiveness because the kina was rapidly appreciating, and the scope had to be reduced considerably because of the project team's slow response to initiating project requirements. In addition to the cost pressure on infrastructure activity, the project management and institutional support costs (covered under component 3) grew to \$9.62 million compared with the estimate at appraisal of \$6.2 million. Although some of this additional cost can be attributed to the appreciation of the kina and the domestic pressures associated with rapid resource sector expansion, there were also significant administrative inefficiencies that OPIC should have managed better.

5.5 A strong economic case remains for support to palm oil growers in Papua New Guinea given the increasing global demand for FFB, but the methodological limitations of the economic analysis in the ICR make it difficult to attribute the benefits solely to SADP and thus to determine what returns can be expected from support to smallholder growers in the sector. In addition, SADP's administrative inefficiency had a detrimental impact on the project's achievements and prevented recipients from maximizing the advantage that was expected from investments in a lucrative and growing sector of the economy. Therefore, efficiency is rated **modest** to reflect considerable shortcomings in SADP's cost effectiveness.

6. Outcome Rating

6.1 SADP was a complex project working in a well-established and profitable sector of Papua New Guinea's economy. The design was two dimensional with support to enable oil palm incomes to increase for small-scale growers, complemented by community-level investments designed to ensure shared benefits in oil palm growing regions. The design responded to relevant needs in targeted regions, and the project objective aligned to the development needs of the Papua New Guinea government and the priorities outlined in the World Bank country strategy for Papua New Guinea. However, it was also an overambitious commitment to increase the involvement of targeted communities—a concept that lacked clarity, was difficult to monitor, and did not accurately reflect the project's intention. Thus, the relevance of SADP's project objective is rated **modest**. Although this review found SADP to be relevant to the needs of Papua New Guinea's palm oil growers and the agricultural sector in general, there were significant shortcomings in the design logic and in SADP's conception and composition. Omitting the CDD in the post-2012 period does not diminish the design's significant shortcomings. Thus, the project's relevance of design for both before and after restructuring is rated **modest**.

6.2 The PDO for SADP included only one objective with two dimensions. The second of these dimensions was dropped during the first project restructuring, and therefore this review undertook a split outcome rating calculation. Although progress was made against the first aspect with sustained growth in palm oil incomes, there is legitimate concern that the improvements resulted from improvements in palm oil prices and not from extension and road construction activities. However, assessing progress against this aspect of the project, IEG finds that the project made an important contribution to improving small grower incomes. By contrast, there was no measurable progress against the second part of the objective. The intent to increase local participation through a CDD model was beyond the project team's capacity and was dropped at the 2012 restructuring. Thus, the overall efficacy rating for the project objective is measured against two dimensions before 2012 and only against activities contributing to palm oil revenues in the restructured phase. Efficacy is rated **negligible** in the pre-restructuring phase and **modest** in the post-2012 period.

6.3 The economic case for investing in the palm oil sector in Papua New Guinea is notable, but shortcomings in the project's economic analysis were evident given the lack of a comparison to illustrate real versus assumed gains. In addition, the extremely slow infrastructure rollout and the extensive range of administrative limitations led to an efficiency rating of **modest**.

6.4 The combination of ratings for relevance, efficacy, and efficiency both before and after the restructuring is **unsatisfactory**.

7. Risk to Development Outcome

7.1 The evaluation team considers the risk to development outcome as **high**, given the political, economic, and logistical risks associated with SADP. Politically, OPIC

continues to function and is fueled by contributions from growers and the milling companies, but it remains exposed to government interference, operates without a permanent chief executive officer, and has a board that rarely meets to ensure its strategic direction. It has continued to seek additional funds through changes to its mandate and proposed legislative reforms that OPIC hopes will mandate its long-term function. However, the milling companies remain disappointed with its performance, its funding model is struggling, extension activities have been reduced dramatically, and various stakeholders exert pressure to fold OPIC into the Palm Oil Council (made up of the Palm Oil Producers Association, OPIC, nongovernmental organizations, and the department of agriculture).

7.2 Economically, oil palm remains essential to Papua New Guinea's economy, accounting for 60 percent of agricultural GDP. Oil palm milling companies have continued to grow and refine their opportunities, particularly regarding sustainably certified oil palm. However, the evaluation team found that although the road maintenance trust fund could provide some revenue to road maintenance, there are regular funding shortfalls, and contracting at the provincial level is not prioritized toward productive sectors. In addition, extension activities have continued to struggle without SADP's oversight and funding, and yields on FFBs have fallen by 15 percent in recent years because of changing practices and a reduction in replanting programs. Without additional support and coordination, there is a danger that the smallholder sector will again be uncompetitive against the larger milling company operations.

7.3 Logistically, the same risks that existed before SADP remain. Oil palm is a crop that must be milled within three days of its harvest. Therefore, both the milling operations and the roads to transport the crop must be close to the growers. The milling companies remain committed to purchasing the production of small landholders, but this is determined by both the continued quality, sufficient reliability of production, and economical transport routes. Provincial governments have tried to play a role in overseeing road maintenance, but this is still a challenge. The milling companies have proved to be more successful as partners in ensuring grower access, but maintenance shortfalls continue to be a problem, and the government has difficulty coordinating the logistical value chain for small-scale palm oil producers. Thus, the risk remains high that benefits coming from the extension activities and road improvements will not be sustained in the future.

8. Bank Performance

8.1 A range of shortcomings in the project's quality at entry ultimately influenced SADP's limited progress against its PDO. First, although the project responded to a given development problem in an important export industry (namely the lack of sufficient access for smallholder palm oil growers to markets), its multipronged approach was unrealistic in the capacity-constrained Papua New Guinea provinces. The extension activities and road sector investments made sense for a cash crop that was already well established in targeted regions. However, to institute a CDD component with insufficient funds and without an experienced partner put unnecessary pressure on both the project team and the recipient agencies. The design sought to build on the lessons from the Oro smallholder oil palm project, but the salient aspects were related to infrastructure.

8.2 Second, the project grossly overestimated OPIC's capacity. The PAD acknowledged OPIC's limitations and noted, "The OPIC extension system is less than fully effective in enhancing productivity." To presume that productivity improvements would move in parallel with the delivery of a CDD program overseen by the same low-capacity partner was ill founded. Therefore, though the intent was for the CDD program to be contracted to a management agency, the expectation that OPIC could oversee this process was naïve. Ultimately, this led to the abandonment of component 2, which limited the overall impact of what was a thoughtfully conceived project design.

8.3 Third, SADP was designed to accommodate and build relations with other donors supporting rural development, such as AusAID and provincial community groups, but the design provided little information on how to achieve this. Discussions with stakeholders indicated that relationships with provincial community organizations were essential to delivering component 2, but this was not outlined in the design. Similarly, AusAID was a major partner in the roads sector, and the hope was to exploit AusAID's experience in both funding and complementary expertise. However, conversations with the Department of Foreign Affairs and Trade (previously AusAID) revealed an insufficient familiarization with the SADP approach with counterparts and no detail on where there might be strategic need. The department was surprised with the choice of OPIC as the delivery partner and had experienced its own challenges with instituting a CDD-like program that had proved unsuccessful.

8.4 In addition to these shortcomings, the project design did not adequately address effective safeguard measures to manage potential environmental and social impacts associated with palm oil effluent and the likelihood of land conflicts. This diverse set of shortcomings led the review team to rate quality at entry as **moderately unsatisfactory**.

8.5 Regarding supervision during implementation, the World Bank team was responsive to both issues requiring attention and to regular, iterative innovation in circumstances of limited capacity. In evaluation team discussions with both government counterparts and relevant OPIC officers, the agriculture ministry acknowledged the World Bank team for its competence and skill in responding to significant barriers to progress. The implementation status reports and aide memoires provide detailed insight on progress, and the midterm review was a well-handled triage on how to turn the project around. The project restructuring was handled sensibly given the considerable problems with activity start-up, and it sought realistic solutions to a range of issues. In this way, the World Bank team did a good job trying to make a difficult operation stay on track and make a valid contribution toward the intended PDO.

8.6 However, there were shortcomings. The M&E design, reporting, and analysis was poor, and the World Bank should have done a better job rectifying the issue, particularly given the solid foundation it had to work with in the original 2009 baseline report. The inability to institute a workable and effective M&E system set the project back, and this should have been rectified earlier. There were also capacity constraints that the World Bank team could have addressed better either through mirroring operational processes or through additional funding for hands-on guidance. Without the necessary skills, the World Bank could have been more proactive in finding ways to fill the void where required. OPIC was unlikely to find its way to deliver against the ambitious targets

without ongoing and intense oversight. Thus, the quality of supervision rating is **moderately satisfactory** reflecting modest shortcomings, and the World Bank's overall performance is rated **moderately unsatisfactory** given the unsatisfactory outcome rating.

9. Borrower Performance

9.1 The government was not committed to SADP, which had an impact on the problems it encountered, particularly in the early phase. As discussed previously, the relationship between the World Bank and the government had been diminished by the difficulties experienced in the Papua New Guinea Forestry and Conservation Project that led to a suspension of lending and cancellation due to concerns about activity contrary to legal agreements. There were other shortcomings in addition to the strained relationship between organizations, including the capacity constraints outlined in paragraph 3.14. First, the provision of counterpart funds for the project was delayed, which led to problems with instituting committed works. Second, although the Ministry of Agriculture was supportive, it was not proactive regarding preparation and implementation of the extension support resources. Third, the government failed to appoint a general secretary to OPIC, and CSTB contract approvals were delayed substantially. Finally, provincial governments had limited participation in infrastructure efforts and little concern for the impact this would have on the introduction of the CDD process under component 2. Given these considerable shortcomings, even in an environment of limited capacity, government performance is rated **unsatisfactory**.

9.2 The project coordination unit under the auspices of OPIC operated independent of government. Based on the evaluation team's discussions with beneficiaries and associated stakeholders, the consensus is that even though OPIC fulfills an important function through its representation of growers, it was ill-prepared to deliver a project as complex as SADP successfully. The project overestimated OPIC's capacity in the design stage and did not provide sufficient support to circumvent issues during implementation. OPIC suffered from inadequate staff capacity in the Port Moresby office, was responsible for prolonged delays in putting the necessary personnel in place, oversaw poorly coordinated field activities, and failed to develop the necessary institutional structures to ensure long-term viability. OPIC was successful in delivering against several of its infrastructure investments and in formulating the road maintenance trust fund, but there were still operational shortcomings resulting directly from its project inexperience that limited the impact of its activities.

9.3 As noted previously, large management cost overruns and lack of oversight of the extension services and infill program led to serious deficiencies that were impossible to rectify within the project's time constraints. Financial review and audit were often delayed, and World Bank staff pointed out the need for the regional office oversight of procurement and audit procedures to ensure that the project complied with World Bank requirements. The OPIC team acknowledged that it was difficult to know the best way to tackle the extensive list of issues at once, which resulted in deferment and delay. They had considerable interest in making the project work because it was potentially a measure of their competence and ability to raise additional funds in the future. However, the sheer scale of the problems was such that OPIC struggled with strategic direction, and the default approach was to retreat to infrastructure management where there was familiarity

and a measure of success. In addition to these shortcomings as outlined in paragraphs 3.5–3.6, poorly addressed safeguard issues led to the creation of an inspection panel review. Thus, the rating for implementing agency performance is **unsatisfactory**, and the rating for overall borrower performance is **unsatisfactory**.

10. Monitoring and Evaluation

10.1 As outlined briefly in section 3.16 on implementation, there were significant and persistent shortcomings in the design of SADP’s M&E system. First, there was little clarity regarding the integration of the two parts of the PDO and how each would be monitored other than a vague reference to surveys interviews and reports. With two different components informing the PDO, the lack of clarity in how to approach each aspect made it unlikely that responsibility for data collection would be forthcoming. Second, although the intermediate indicators for component 1 were useful in illustrating the impact of SADP activities, there was insufficient detail on how the necessary surveys to collect the data would be undertaken, who would conduct the surveys, and how the process would be managed. Third, the indicators for component 2 were generic CDD indicators not clearly aligned to the mandate of improving the level of involvement of community members. There was no explanation of how to measure “satisfaction with participation,” and the allocated numbers against the number of subprojects have no correlation to the small amount of funding designated to the activity. In effect, these shortcomings illustrate the M&E design’s overambitious nature, which did not reflect the reality and challenges of projects in Papua New Guinea.

10.2 Given these limitations in design, SADP inevitably confronted problems in implementing the M&E approach. OPIC was identified as the primary oversight agency in addition to a yet-to-be-determined management agency for the CDD component. On both fronts, the institutional capacity to deliver on data collection and reporting was not assessed and was not sufficiently factored into the intended baseline, midterm, and completion report processes. Consultants conducted the planned project baseline surveys in 2009, which provided a comprehensive insight into development gaps and where operational emphasis needed to be directed.² The survey provided important income information, household demographic characteristics, and service accessibility. Although the demographic and income information proved valuable, the data on service provision were patchy and had limitations with correlations between responses and reality (page 30 Baseline Survey). In addition, the emphasis was on accessibility and measurable indicators rather than the quality of services that were to be part of the planned CDD component.

10.3 The project team in OPIC provided regular progress reporting using its own monitoring system. The planned management information system did not materialize, and instead an existing software platform called OMP was used. The milling companies used this system to track variations in grower performance, and it was instituted as a pragmatic solution to data collection. However, discussions with the project team revealed that the system was confined to Oro province where there was sufficient capacity to generate the data. This limited the scope of useful production information and resulted in inconsistent project reporting. In addition, the secondary baseline reporting was contracted to a company in December 2011 and was to be followed by periodic M&E. However, the

methodology for the survey and the substance of the survey forms were subject to extensive discussion and revision. The survey commenced in July 2012, but OPIC ended up rejecting the baseline survey because of limitations in its utility.

10.4 There were several attempts to track program performance better after the midterm review, but there were considerable shortcomings with building a pragmatic and simple system that could provide for some of the basic needs beyond the existing OMP information. After lengthy discussions with the program team, IEG learned that much of the confusion and problems associated with M&E was driven by domestic capacity constraints in bringing the right team on board and the lack of direction from OPIC and the World Bank in formulating an approach built on information utility and the capabilities of regional officers. IEG's evaluation team found that the approach was too ambitious, limited in its performance utility, and unable to deliver against the intentions outlined in the PAD.

10.5 OPIC was disciplined in capturing and recording outputs, including infrastructure works and the infill planting progress. However, there were considerable shortcomings regarding tracking the community impacts and the project's participatory aspects. From a purely operational perspective, SADP's inability to build on the good work carried out in the baseline assessment, track this effectively through the life of the project, and draw on the findings to inform managerial responses meant that many of the tacit insights SADP staff and beneficiaries had developed were not captured and used to improve the operational arrangements for infrastructure management and extension activities. Given these considerable shortcomings, the rating for M&E is **modest**.

11. Lessons

11.1 **Projects that seek to improve crop productivity and income on smallholder farms, in addition to CDD, work better when they integrate the two disparate objectives because of the very different implementation modalities involved.**

Although there are valuable complementarities between small-scale community infrastructure investments (a typical CDD activity) and improving productive efficiency and market opportunities for small-scale cash crop producers, linking these objectives under one project seamlessly is difficult and costly. The counterpart for this project was a grower organization with no experience engaging in participatory development activities. In addition, the very small financial allocation to the CDD component and the lack of sufficient planning in setting up this process showed the importance of detailed preparation to any potential successful integration of these different project activities. For example, providing agricultural extension services and rehabilitation of market access roads are very different from CDD activities in their scope and composition. The SADP experience shows that combining these two elements into one project requires extensive planning, high-capacity partners, and multiskilled teams committed to in-depth understanding of their separate recipient communities.

11.2 **Complex, multidimensional projects require additional oversight and support in environments with weak government implementation capacity.** SADP was an ambitious undertaking that sought to reinvigorate an important Papua New Guinea cash crop, develop the skills and abilities of one of the peak grower organizations

through its project oversight, improve farm-to-market road networks, reform the extension services in the oil palm sector, and institute an extensive program for a small landholders' infill planting program to respond to the milling companies' demands. Each of these intentions had a range of development problems and had to be tackled with different plans, approaches, and resources. Both the government and OPIC were unable to handle the complexity of taking on all of these issues at once. Including them in the SADP design caused significant delays, implementation problems, and inefficiencies that limited the project's impact. Given the capacity limitations of both the government and OPIC, prioritizing the primary development challenge in a straightforward design might have been a useful approach to ensuring better outcomes.

11.3 Creative operational approaches or sufficient institutional support is required in weak-capacity environments to ensure that project disbursements are distributed effectively. Agricultural development projects in weak-capacity environments work best when teams find work-arounds and have a strong grasp of rules and requirements. Road rehabilitation was SADP's most successful component, and this activity brought out the best in the project team. With project funding, the team established investments in new equipment, collaborated with the milling companies, and sought operational support from other projects and provincial governments. For example, the purchase of the road graders and the negotiations about priority roads for rehabilitation showed that when project goals were clear, the team was ready to make things work and find creative options to operational barriers.

11.4 Understanding cultural impacts and how they influence agricultural cash crops in smaller, geographically isolated states is necessary to ensure that political constraints do not reduce the impact of World Bank projects. SADP's operational challenges showed that contextual factors inevitably had a considerable impact on the project's success. The palm oil sector in Papua New Guinea is mature, well established, and highly political, and is characterized by local issues that are unique to the country, including land conflicts and the tradition of *wantok* (Melanesian tribal welfare system). Unlike similar palm oil operations in Southeast Asia that large-scale private operators dominate, the sector in Papua New Guinea has a history of land conflict and smallholder complaints, and it is influenced by government oversight and interference. The SADP experience showed the importance of local knowledge to effective design, project scope, and productive government relationships.

11.5 Agricultural sector road infrastructure investments need to be coordinated sufficiently with domestic private-sector interests and provincial government priorities to ensure sustainability and future operational maintenance. The SADP road investments in rehabilitation were an effective response to the development challenge of transporting FFBs to the mills and ensuring that growers are paid for their outputs. However, the experience also shows that agricultural project investments work best when they are incorporated into existing operations and maintenance schedules, aligned to the immediate needs of local governments, and are responsive to private sector demand. Though it occurred late in the process, OPIC's work with the milling companies and provincial governments in coordinating road rehabilitation showed that they are useful partners in making agricultural development work in isolated regions.

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¹ Smallholder Agriculture Development Project (SADP) Baseline Survey, World Bank, June 2009.

² SADP Baseline Survey, World Bank, June 2009.

Appendix A. Basic Data Sheet

SMALLHOLDER AGRICULTURE DEVELOPMENT PROJECT (IDA-437401)

Table A.1. Key Project Data (\$, millions)

Category	Appraisal Estimate	Actual or Current Estimate	Actual as Percentage of Appraisal Estimate
Total project costs	68.80	25.41	63.20
Loan amount	27.50	23.26	84.60
Cofinancing	7.40	2.15	39.10

Table A.2. Project Dates

Category	Original	Actual
Concept note	06/25/2003	
Appraisal	02/23/2007	
Board approval	12/18/2007	
Effectiveness	01/28/2009	01/28/2009
Restructuring		06/13/2012 11/14/2013
Closing date	12/31/2012	12/31/2013

Table A.3. Staff Time and Cost

Stage of Project Cycle	Staff Time and Cost (World Bank budget only)	
	Staff weeks (number)	\$, thousands (including travel and consultant costs)
Lending		
FY03	35.11	160.65
FY04	24.65	119.58
FY05	27.20	225.69
FY06	36.70	257.95
FY07	19.24	67.50
FY08	23.23	125.22

Appendix B. List of People Met

1. Soniya Woo, World Bank
2. Koney Samuel, Smallholder Agriculture Development Project
3. Moses Aihi, Smallholder Agriculture Development Project
4. Emily Flowers, Australian Centre for International Agricultural Research
5. Sydney Suma, Papua New Guinea Market Development Facility
6. Jodie Mc Alistair, Department of Foreign Affairs and Trade, Australia
7. Tanya Morjanoff, Department of Foreign Affairs and Trade, Australia
8. Leslie Yurus, Oil Palm Industry Corporation (OPIC)
9. Brown Bai, Chairman, Oil Palm Council (formerly Chairman of OPIC)
10. Daniel Vadjanal, International Fund for Agricultural Development, Pacific
11. Steffi Stallmeister, World Bank
12. Allan Oliver, Agricultural Specialist, World Bank
13. Chandana Kularatne, Country Economist, World Bank
14. Gavin Murray, Residential Representative, International Finance Corporation
15. Gerard Fae, Senior Infrastructure Specialist, World Bank