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Report No: 38558

PROJECT APPRAISAL DOCUMENT

ON A

PROPOSED CREDIT

IN THE AMOUNT OF SDR17.7 MILLION
(US\$27.5 MILLION EQUIVALENT)

TO THE

INDEPENDENT STATE OF PAPUA NEW GUINEA

FOR A

SMALLHOLDER AGRICULTURE DEVELOPMENT PROJECT

November 19, 2007

**Rural Development, Natural Resources and Environment Unit
East Asia and Pacific Region**

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CURRENCY EQUIVALENTS
(Exchange Rate Effective as of February 15, 2007)

Currency Unit	=	PGK (Kina)
US\$1	=	PGK 2.8
PGK1	=	US\$ 0.36

FISCAL YEAR
January 1 – December 31

ACRONYMS and ABBREVIATIONS

AusAID	Australian Agency for International Development
CBO	Community-based Organization
CDD	Community Driven Development
CIF	Cost, Insurance and Freight
CPO	Crude Palm Oil
CQS	Consultants' Qualifications
CSTB	Central Supply and Tender Board
DA	Designated Account
DEC	Department of Environment and Conservation
DNPM	Department of National Planning and Monitoring
DOW	Department of Works
DPLGA	Department of Provincial and Local Government Affairs
EA	Environmental Assessment
EMP	Environmental Management Plan
ERR	Economic Rate of Return
ESMF	Environmental and Social Management Framework
EU	European Union
FAO	Food and Agriculture Organization
FFB	Fresh Fruit Bunch
FRR	Financial Rate of Return
GDP	Growth Domestic Product
GoPNG	Government of Papua New Guinea
ha	hectare
HIV/AIDS	Human Immunodeficiency Virus and Acquired Immunodeficiency Syndrome
IAPSO	Inter-Agency Procurement Services of the United Nations
IBRD	International Bank for Reconstruction and Development
ICB	International Competitive Bidding
IDA	International Development Association
IEC	Information, Education and Communication
IFAD	International Fund for Agricultural Development
IPP	Indigenous People Plan
IPM	Integrated Pest Management
ISN	Interim Strategy Note (World Bank)
LCS	Least-Cost Selection
LCT	Local Coordination Team
LLG	Local-level Government
LLI	Local-level Institution
LPC	Local Planning Committee
LSS	Land Settlement Schemes
M&E	Monitoring and Evaluation
MIS	Management Information System
MOU	Memorandum of Understanding
MTDS	Medium-Term Development Strategy (2005–2010)
NARI	National Agriculture Research Institution

NCB	National Competitive Bidding
NGO	Non-governmental Organization
NPV	Net Present Value
NZAID	New Zealand International Aid and Development Agency
O&M	Operation and Maintenance
OPIC	Oil Palm Industry Corporation
OPID	Oil Palm Infrastructure Development Unit
PDO	Project Development Objective
PIM	Project Implementation Manual
PKE	Palm Kernel Expeller Oil
PKO	Palm Kernel Oil
PNG	Papua New Guinea
PNGOPRA	PNG Oil Palm Research Association
PNGSDP	PNG Sustainable Development Program
PPII	Provincial Performance Improvement Initiative
PSC	Project Steering Committee
QBS	Quality Based Selection
QCBS	Quality Cost Based Selection
RMTF	Road Maintenance Trust Fund
RPF	Resettlement Policy Framework
RSPO	Roundtable for Sustainable Palm Oil
SA	Social Assessment
SADP	Smallholder Agriculture Development Project
SIT	Sub-project Implementation Team
SOE	Statement of Expenditures
VAT	Value-added Tax
VOP	Village Oil Palm
WDC	Ward Development Committee
WNB	West New Britain

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PAPUA NEW GUINEA
SMALLHOLDER AGRICULTURE DEVELOPMENT PROJECT
PROJECT APPRAISAL DOCUMENT
EAST ASIA AND PACIFIC REGION
EASRE

Date: November 19, 2007	Team Leader: Oliver Braedt
Country Director: Nigel Roberts	Sectors: Roads and Highways (70%), Crops (20%); Agricultural Extension and Research (10%)
Sector Manager: Rahul Raturi	Themes: Rural Services and Infrastructure (P); Participation and Community Development (S)
Project ID: P079140	Environmental screening category: Partial Assessment
Lending Instrument: Specific Investment Credit	Safeguard screening category: Limited impact

Project Financing Data

[] Loan [X] Credit [] Grant [] Guarantee [] Other:

Total Bank financing: SDR17.7 million (US\$27.5m equivalent)

Proposed terms: Standard IDA terms of 35 years maturity including 10 year grace period

Financing Plan (US\$m)

Source	Local	Foreign	Total
BORROWER/RECIPIENT	7.4	0.0	7.4
International Development Association	17.9	9.6	27.5
PNG Sustainable Development Program	9.7	0.5	10.2
Provincial Government WNB Province	6.2	1.0	7.2
Provincial Government Oro Province	3.0	0.5	3.5
Smallholders	5.0	2.3	7.3
Palm Oil Milling Companies	5.0	0.7	5.7
TOTAL	54.2	14.6	68.8

Borrower: Ministry for Treasury, Department of Treasury, Vulupindi Haus, PO. Box 542, Waigani, 131 NCD, Papua New Guinea

Responsible Agency: Oil Palm Industry Corporation (OPIC), PO. Box 73, Port Moresby, NCD, Papua New Guinea

Estimated disbursements (Bank FY/US\$m)

FY	08	09	10	11	12	13			
Annual	1.5	6.4	6.1	5.8	4.2	3.5			
Cumulative	1.5	7.9	14.0	19.8	24.0	27.5			

Project implementation period: April 2008 to December 2012

Expected effectiveness date: June 1, 2008

Expected closing date: December 31, 2012

Does the project depart from the CAS (ISN) in content or other significant respects? <i>Ref. PAD A.3</i>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Does the project require any exceptions from Bank policies? <i>Ref. PAD D.7</i> Have these been approved by Bank management? Is approval for any policy exception sought from the Board?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Does the project include any critical risks rated “substantial” or “high”? <i>Ref. PAD C.5</i>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Does the project meet the Regional criteria for readiness for implementation? <i>Ref. PAD D.7</i>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Project development objective <i>Ref. PAD B.2, Technical Annex 3</i> The development objective of the proposed project would be 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.	
Project description <i>Ref. PAD B.3, Technical Annex 4</i> The project includes three components: (a) <u>smallholder productivity enhancement</u> . The component would support: (i) the planting of new village oil palm along existing access roads in the two project provinces (Oro and West New Britain); (ii) the upgrading and maintenance of provincial access roads and the establishment of a sustainable financing mechanism for road maintenance; and (iii) the strengthening of extension services to enhance smallholder productivity; (b) <u>local governance and community participation</u> . The component would support the improved provision of local services and infrastructure in the two project provinces through participatory processes; and (c) <u>project management and institutional support</u> . The component would strengthen: (i) the capacity of OPIC to manage the project, with the assistance of a Management Agency for Component 2 implementation; and (ii) the smallholder sector, through supporting training, research and studies.	
Which safeguard policies are triggered, if any? <i>Ref. PAD D.6, Technical Annex 10</i> OP/BP/GP 4.01 (Environmental Assessment); OP/BP 4.04 (Natural Habitats); OP 4.09 (Pest Management); OP/BP 4.36 (Forests); OD 4.20, being revised as OP 4.10 (Indigenous Peoples); OP/BP 4.12 (Involuntary Resettlement)	
Significant, non-standard conditions, if any, <i>Ref. PAD C.6</i> , for: Board presentation: None Credit effectiveness: Specific conditions of effectiveness would include: (a) the execution of the Subsidiary Agreement between the Government of Papua New Guinea (GoPNG) and OPIC; (b) the execution of the Co-financing Agreement among GoPNG, PNGSDP and OPIC; (c) the establishment of the Project Steering Committee with composition acceptable to IDA; (d) the adoption of (i) the Project Implementation Manual, including the Environmental Management Plan and the Resettlement Policy Framework by GoPNG and OPIC; and (ii) the Smallholder Oil Palm In-fill Planting Sub-Manual and the Road Reconstruction Sub-Manual by PNGSDP; and (e) the establishment and staffing of the OPIC Project Office. Conditions of disbursement would include: (a) under Category 1 (Civil Works), the establishment by OPIC of the Road Engineering Unit; and (b) under Category 4 (Community Development Grants), the contracting by OPIC of a Management Agency for implementation of Component 2.	

A. STRATEGIC CONTEXT AND RATIONALE

1. Country and Sector Issues

1. The agricultural sector of Papua New Guinea (PNG) contributes one-quarter of the country's gross domestic product (GDP), which drives much of the rural sector economy. Within agriculture, the oil palm sub-sector provides a significant share of the agricultural GDP and export revenues. In the rural sector, incomes and living standards are generally low. Although incomes are higher in the oil palm growing areas compared to other rural areas in the rest of the country, smallholder oil palm productivity is below potential. This stems largely from the poor maintenance of the provincial access road network which causes inefficient oil palm fruit collection, especially during the prolonged rainy season. Another factor is the poor smallholder oil palm management practices, including low fertilizer use levels, a failure to harvest the whole oil palm block, failure to replant aging oil palms in a timely manner, and suboptimal harvesting frequencies. Addressing these issues in the oil palm sub-sector would benefit the whole economy of the provinces involved and indirectly benefit the households not directly involved in oil palm production.

2. The oilpalm sub-sector operates under a nucleus estate system that has a close relationship among: (a) palm oil milling companies with oil palm plantations and palm oil production and export marketing facilities; (b) smallholder oil palm producers who produce on 2–6 hectare (ha) oil palm blocks; (c) the Oil Palm Industry Corporation (OPIC)¹ which provides extension and technical advice to smallholders; and (d) the PNG Oil Palm Research Association (PNGOPRA). A significant part, 38 percent of total production, is provided by smallholder oil palm growers.

3. A major issue in rural communities is the low level of services. While communities directly located in oil palm growing areas can count on some support from OPIC and the palm oil milling companies, rural communities in general have not been adequately supported by services from their local-level institutions (LLIs). Inadequate transport, communication, education, health care, sanitation and basic water facilities have resulted in low living standards. These major problems exist largely because of: (a) the centralized supply-driven approach to local development, which inhibits community development programs in providing proper services; and (b) a lack of locally generated revenues to provide public services at the local level. Increasing both the production and productivity of oil palm and an improvement in community services delivery from local level governments is required to increase the living standards of rural communities in oil palm-growing provinces.

2. Rationale for IDA Involvement

4. The project design and implementation would benefit from the long association of the Bank Group with the oil palm sub-sector and its stakeholders which started in the late 1960s and

¹ OPIC is a statutory body created by GoPNG in 1992 to provide extension services to oil palm smallholders. It has a board with representation of smallholders, milling companies, the PNG Oil Palm Research Association (PNGOPRA), the Department of Agriculture and Livestock and the Department of National Planning and Monitoring. It has a head office in Port Moresby and field offices in each of the oil palm smallholder areas.

continued until the closing of the Oro Smallholder Oil Palm Development Project in 2001². The Oro project successfully demonstrated that there is a strong demand by smallholders for participation in oil palm production because of the assured, regular cash income and enhanced road access, the latter being a primary consideration for all rural communities. It also confirmed that smallholder output and productivity can be substantially increased and that industry-funded support service organizations set up under the project, such as OPIC, can be both effective and sustainable. The involvement of IDA in the project would ensure that smallholders' interests are fully integrated in the design of the project that would take into consideration key lessons learned from previous projects.

5. To address the needs of rural communities in the project areas, the project would support a multi-sectoral component based on the community-driven development (CDD) approach that would work through the decentralized local governance framework. This approach would enable the project to demonstrate efficient mechanisms to tackle some priority issues affecting rural areas, particularly those related to past weaknesses associated with a centralized, supply-driven approach to local development. It would improve local governance, accountability and transparency in the allocation and use of funds for local development through the more active participation of Local Level Governments (LLG) in the Local Planning Committees (LPC) established in the oil palm growing areas (and including representatives of the milling companies and the growers), and an increase in the capacity of LLGs to respond to community needs and demands in the provinces. IDA recently carried out a review of CDD experience in PNG and internationally which confirmed that CDD schemes appear to work best when local governments are given a central role and parallel structures are avoided. IDA's involvement in the project would ensure that the design of the project draws on the lessons from numerous Bank-funded CDD projects globally and the review of specific CDD experience in PNG.

6. The proposed project complements the efforts of other development partners including the Australian Agency for International Development (AusAID), New Zealand's International Aid and Development Agency (NZAID) and the European Union (EU) in increasing smallholder oil palm productivity by strengthening agricultural research and extension efforts. In addition, the proposed project would support the efforts of development partners in CDD and decentralization activities. IDA's comparative advantage to support them is its technical leadership in community-driven approaches and its long track record supporting CDD and local governance around the world.

7. The project design supports the GoPNG's Medium-Term Development Strategy 2005 – 2010 (MTDS) and would be fully consistent with IDA's overall goals as stated in the Interim Strategy

² The preparation of the proposed project was to start in 2003 to support continued investment after the closure of the successful Oro project. The project processing was delayed because of the long suspension of the Bank-funded Forestry Conservation Project in PNG and its subsequent cancellation (June 2005). From August 2003 to September 2005, due to the suspension of the Forestry and Conservation Project, Project Preparation was not able to proceed in spite of the successful Project Identification mission and subsequent Project Concept Decision meeting in FY03. During this two-year period, a number of technical visits took place and some technical background studies were commissioned, but the main preparation activities funded under the project's PHRD project preparation grant (e.g., the Environmental Assessment, the Social Assessment, the Project Implementation Plan and technical studies) could not proceed. The full preparation effort was only resumed after the 2005 Annual Meetings when the official restart of project preparation was agreed with GoPNG. The extended length of the preparation period accounts for the high preparation costs for this project.

Note (ISN-Report No. 31790-PG, March 18, 2005). IDA's involvement also would ensure that the appropriate social and environmental safeguards would be enforced.

3. Higher-Level Objectives to Which the Project Contributes

8. The ISN reviewed and summarized the development challenges and prospects faced by the country and took into consideration GoPNG's development strategy.³ The three key points of the interim development strategy are: (a) good governance; (b) export-driven economic growth; and (c) poverty reduction and improved living standards for the citizens of PNG. The project would be consistent with GoPNG's development strategy objectives and with the ISN objectives to promote the development dialogue, to stem the decline in social indicators and to build the foundations to improve governance and to sustain recovery.

9. Specifically, the project would make operational the MTDS⁴ by (a): supporting interventions that increase and sustain agricultural output and productivity in smallholder oil palm production, thereby enhancing smallholder incomes, palm oil production and palm oil exports; and (b) supporting the development and demonstration of sustainable mechanisms to support local governance, promote participatory planning, and promote local accountability at the community level in both oil palm and non-oil palm communities in oil palm producing provinces.

B. PROJECT DESCRIPTION

1. Lending Instrument

10. Total project costs are estimated at US\$68.8 million (including physical and price contingency provisions). The project would be financed by an IDA Specific Investment Credit equivalent to US\$27.5 million (m). Additional financing includes: the GoPNG (US\$7.4 m), the West New Britain (WNB) Provincial Government (US\$7.2 m), the Oro Provincial Government (US\$3.5 m), palm oil milling companies (US\$5.7 m), smallholder oil palm growers (US\$7.3 m) and the PNGSDP (US\$10.2 m).

2. Project Development Objective and Key Indicators

11. The development objective of the proposed project would be 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.

12. The key indicators at the Project Development Objective (PDO) level would be:

- an increase in smallholder income from oil palm production; and

³ Documents that support the ISN include the MTDS for 2005–2010, a National Poverty Reduction Strategy, a Medium-term Resource Framework and a Strategic Plan for Supporting Public Sector Reform (2003–2007).

⁴ GoPNG has outlined a plan for economic and social advancement in its MTDS. The objectives of the MTDS are to promote export-driven growth, rural development, and poverty reduction and empowerment through human resource development. These are to be achieved by directing public investment toward the following expenditure priorities: transport infrastructure rehabilitation and maintenance; basic education and primary health care; law and justice; and programs that directly promote income-earning opportunities, especially in rural areas, by improving the efficiency of public resource allocation and budgeting.

- an increase in the level of funds and resources invested by local communities in their local development.

13. The key indicators at the component level would be:

- a decrease in Fresh Fruit Bunch (FFB)⁵ losses resulting from road-related collection problems;
- a decrease in the transport cost along rehabilitated roads;
- an increase in smallholder oil palm yields;
- a decrease in the number of non-compliance incidents from environmental audit;
- an increase in the percentage of people in targeted villages satisfied with their level of participation in local decision-making processes at ward and LLG level;
- the number of sub-projects commenced, successfully completed and maintained; and
- an increase in the level of contributions to sub-projects mobilized from local sources.

3. Project Components

14. The project would include three components: (a) smallholder productivity enhancement; (b) local governance and community participation; and (c) project management and institutional support. The components would be implemented over five years in WNB Province (at the Hoskins and Bialla schemes) and Oro Province (at the Oro scheme). A description is given in Annex 4.

⁵ The oil palm fruit collected for processing is referred to as “Fresh Fruit Bunch” (FFB).

Table 1. Project Cost and Financing Summary (in US\$ million)

Project Components	IDA	GoPNG	Prov. Govts.	PNG-SDP	Others	TOTAL	%
Component 1 - Smallholder productivity enhancement							
▪ Road reconstruction and maintenance	17.5	4.2	10.7	2.9	10.6	45.9	66.8
▪ Seed capital for road maintenance fund				1.1		1.1	1.5
▪ Road contract management and supervision	0.4	0.8			0.3	1.5	2.3
▪ Smallholder oil palm planting (in-filling)				6.2	1.6	7.8	11.3
▪ Extension services (OPIC)	1.0	1.5			0.4	2.9	4.1
Subtotal	18.9	6.5	10.7	10.2	12.9	59.2	86.0
Component 2 - Local governance and community participation							
▪ Development grants to communities	1.8					1.8	2.6
▪ Capacity development	0.6					0.6	0.9
▪ Community development implementation support	0.6	0.1				0.7	0.9
Subtotal	3.0	0.1				3.1	4.5
Component 3 - Project management and institutional support							
▪ Project management	4.6	0.7			0.1	5.4	7.8
▪ Implementation monitoring	0.4	0.1				0.5	0.8
▪ Smallholder sector support	0.6	-				0.6	0.9
Subtotal	5.6	0.8			0.1	6.5	9.5
TOTAL PROJECT COSTS	27.5	7.4	10.7	10.2	13.0	68.8	100.0

Others = Smallholders and palm oil milling companies.

Please note that some of the above totals do not balance due to rounding.

15. **Component 1: Smallholder Productivity Enhancement** (total estimated cost US\$59.2 million). This component would support: (a) smallholder oil palm development; (b) road works; and (c) agricultural extension. Some 9,000 ha of oil palm would be established on vacant blocks of village land along existing access roads (in-fill planting) within the area already covered by existing oil palm infrastructure. The project would finance land preparation, purchase of seedlings, fertilizers, basic tools and other inputs provided to smallholders by the mills as suppliers' credit. About 550 km of existing provincial access roads serving the oil palm catchment area would be upgraded (reconstruction). The project would finance construction and maintenance contracts and the purchase of non-routine maintenance equipment. A Road Maintenance Trust Fund (RMTF) would be established in each smallholder oil palm scheme, financed by smallholders, palm oil milling companies and provincial governments. The existing oil palm extension and research services would be upgraded to generate and disseminate productivity improvements. The project would also finance technical assistance and training to support the management of oil palm smallholdings during and after the project duration (see Annex 1, paragraphs 7-11). The beneficiaries of this component would be existing smallholder growers (road improvements and in-fill planting), new smallholder growers (oil palm establishment) and general road users from adjacent villages. In addition, increased incomes in the sector would boost demand for goods, services and labor.

16. **Component 2: Local Governance and Community Participation** (total estimated cost US\$3.1 million). This pilot component would support the improved provision of local services and infrastructure in the two project provinces of Oro and WNB through participatory processes (CDD). While increased oil palm income has boosted the demand for infrastructure and public services, LLGs have been unable to respond adequately not only because of insufficient funding from government but also because of the poor allocation and management of public expenditure. Community participation in the allocation process has been found to improve the efficiency of local expenditures, and this component would demonstrate proven but innovative mechanisms for community participation in local development. The component would finance small community grants, technical assistance and training to LLGs and communities. The grants would finance small-scale community infrastructure and services through sub-projects (see Annex 4 for examples). The ultimate beneficiaries would be all residents of the provinces. The implementation steps would include: (a) capacity building of community-based organizations (CBOs), ward development committees, LLGs and province/district administrations; (b) community mobilization, supported by local facilitators; (c) identification and prioritization of sub-projects through transparent processes at ward or community level; (d) participatory planning and budgeting at LLG level; (e) provision of funding, with conditions to ensure accountability and effective use of funds by recipient communities; and (f) design and implementation of sub-projects by the communities themselves, with support from district and LLGs, local CBOs, non-governmental organizations (NGOs) and service providers. Lessons learned through the M&E arrangements of the pilot component (see paragraph 34 below) would be used to expand the policy dialogue between GoPNG, IDA and other development partners and to prepare for a possible scaling-up of successful mechanisms in a follow-on project.

17. **Component 3: Project Management and Institutional Support** (total estimated cost US\$6.5 million). OPIC would take overall responsibility for project management, coordination and performance of the project components. Component 1 implementation would be undertaken through OPIC and its field offices with the support of the palm oil milling companies and PNGOPRA. Component 2 would be implemented by a management agency contracted by OPIC: (a) to set up Local Coordination Teams (LCT) at provincial level; (b) to select and contract consultants and service providers to carry out all capacity-building activities; (c) to carry out M&E activities for the component; and (d) to transfer the grants and manage the grant accounts at the LLG levels, and to transfer funds for sub-project activities to the Sub-project Implementation Teams' (SITs) accounts at the LLGs' request. Component 3 would strengthen OPIC's capacity to manage the project and to provide extension to growers. OPIC would also provide support to and coordinate with existing HIV/AIDS awareness/prevention campaigns in the project areas. Environmental monitoring would be supported in close coordination with the Department of Environment and Conservation (DEC).

4. Lessons Learned and Reflected in the Project Design

18. **Components 1 and 3.** Project implementation experience in PNG has often revealed a limited performance at the operational level in most public sector institutions, government's limited capacity to provide for operational costs other than salaries in these institutions, and government's inability to make timely and adequate appropriation of counterpart funding. These limitations emphasize the need for reliance on private sector sources to the maximum extent possible for funding and services. A number of lessons specific to the oil palm industry have been derived from recent experience in the Oro Smallholder Oil Palm Development Project as well as from the

AusAID-funded road maintenance program in Bougainville. These lessons have been incorporated in the design of the proposed project:

- Strong, effective project management is necessary. To reduce the coordination required, the project design should minimize the number of executing units.
- To maximize economic benefits and to maintain the confidence of smallholder growers, regular FFB collection from smallholders must be guaranteed. Provincial access roads must meet necessary standards and receive regular maintenance. In order to reduce the cost per unit quantity of FFB supplied, oil palm development should be promoted and maximized in the areas that have practical access to the road network.
- The regular Department of Works (DOW) services are unsuitable to implement the reconstruction program which involves numerous small sections of road to be built in close coordination with OPIC scheme managers. Well-coordinated and continuous infrastructure contracts are required to encourage the continued presence of competent contractors in the provinces concerned. The provincial government cannot be relied on to provide the total funds to maintain the provincial access road network.
- The OPIC extension system is less than fully effective in enhancing productivity, in part because of an incapacity to utilize its management information system and to analyze and address grower attitudes to improved productivity measures. To improve smallholder productivity, the project would assist OPIC in building its capacity to monitor and analyze the agronomic and socio-economic factors affecting smallholder oil palm yields, in close liaison with PNGOPRA, and in designing and adjusting extension programs accordingly.

19. **Component 2.** To inform project preparation, IDA carried out a review of CDD experience in PNG and internationally. This included a CDD fact-finding study, a stocktaking and assessment of participatory Community-Based Development Initiatives in PNG and a study on local budgeting cycles. The key lessons are that Bank-funded CDD schemes appear to work best under the following conditions: (a) the scope of the project should be limited to correspond with the methodologies and capacities of the various stakeholders; (b) parallel structures should be avoided and local government should be given a central role; (c) for local groups to develop a sense of ownership of their activities and as a pre-condition of sustainability, they should participate at both the planning stage and during implementation; and (d) project design must be flexible. Phased implementation should be preferred to permit learning and/or redesign.

20. These conditions would be achieved by fostering more inclusive local partnerships and providing incentives to improve the dialogue and interaction among communities, NGOs and local governments. Reform of the current intergovernmental fiscal system would require legislative changes that could take years to implement. In the interim, changes could be introduced with the aim of improving incentives. An example would be to ensure that local governments receive a regular, if limited, allocation of resources to use for planning and delivering community-based development activities. Such a grant would be accompanied by the introduction of the public disclosure and community monitoring mechanisms discussed above. These could be effective tools to reduce the risk of misappropriation and, in the long run to reinforce the local governance framework and social accountability.

21. Finally, the experience of the Bank-funded El Niño Drought Response Project in the late 1990s provides another lesson for overall project management. This project used a similar process of participatory needs identification and prioritization as designed for this project. The communities

were prepared to contribute local equity to implement the identified solution to their top-priority issue. Several large, permanent water supply schemes were successfully implemented in this manner, with the help of provincial Departments of Works and of Health. However, the project was ultimately unsuccessful with 75 percent of the loan being cancelled. The reasons were: (a) incompetence on the part of the national managing unit in the Department of Provincial and Local Government Affairs (DPLGA) to lead and monitor any form of participatory community planning; and (b) the unwillingness of the provincial government agencies to utilize the experience of NGOs to interface with communities, as was intended by the project. The important lesson from this project is that the national managing agency must have the correct organizational culture and control structures built in. In their absence, it was decided that the implementation of Component 2 would be best managed by a management agency contracted by OPIC (such as a NGO with a sound knowledge of local conditions and social and cultural norms, and experience in involving local communities) applying participatory approaches and developing the capacity of local stakeholders. This management agency is also expected to support GoPNG, IDA and other development partners in engaging in a dialogue about local governance and community participation.

5. Alternatives Considered and Reasons for Rejection

22. The project choice and its design features result from considering the development options in rural areas. Both GoPNG and IDA emphasize the urgent need to improve livelihoods in rural areas and to stimulate economic recovery and growth through developing agricultural exports. However, GoPNG is faced with severe fiscal constraints and wishes to use borrowed funds for quick- and high-returning investments that meet its rural development objectives. GoPNG wishes to avoid providing a large beneficiary grant element that could have important long-term social benefits but would be difficult to justify at this time. Therefore, the project provides more resources for strengthening the successful smallholder oil palm sub-sector and ensuring its sustainability than for the community participation component.

23. Unlike the smallholder oil palm sector, any project aimed at food crops would have major transport and marketing difficulties. Furthermore, the extension services needed to support a general improvement in food crop production are not in place and would take a long time to develop. For livestock, the main opportunity appears to be in poultry production. There is a steady increase in production by both large and small entrepreneurs, without the need for a major investment project.

24. IDA identified oil palm as the best vehicle for an investment project to improve rural livelihoods and boost exports in PNG. IDA then gave consideration to support for existing schemes and development of new areas in other provinces. GoPNG had demonstrated considerable interest in the latter approach. The arguments against expansion into new areas were threefold. *First*, such an undertaking would require a long planning period and close collaboration between government and the company interested in financing the mill. *Second*, there are no additional possibilities for provision of leases of government land to enable the nucleus estate around which the smallholder area would develop. The production would have to derive from a mixture of mini-estates (land leased by the company from traditional land owners through government, with management by the company and royalty and rent payments to the owners) and smallholders. This arrangement would involve a long lead time before it could be effectively put in place and benefits obtained. Furthermore, there would be a strong likelihood of environmental concerns since any scheme area would probably include rainforest areas. *Third*, smallholders in the existing scheme areas generally are producing at far below their potential. Modest new investment added to the large past

investments could be expected to give a very good return and could be designed to put the entire existing smallholder oil palm sector on a totally sustainable and self-financing basis.

25. Regarding Component 2, an approach creating a parallel structure such as a Social Fund, was rejected. A Social Fund's emphasis would have been on the rapid delivery of investment funds at the community level. In contrast, the objective of the component would be to address systemic challenges to local governance such as accountability, transfer equity and local participation. The need, therefore, is to work directly with local communities as well as LLIs to ensure long and durable changes in local governance in the targeted areas. A livelihood approach supporting private economic activities at the community level also was discarded as it could undermine emerging micro-finance institutions in the targeted areas. Component 2 would support only the creation or maintenance of public goods and use the provision of services to reinforce the governance capabilities of local institutions and communities.

C. IMPLEMENTATION

1. Partnership Arrangements

26. **Component 1.** The project would work in partnership with all agencies involved in the oil palm sector. OPIC and PNGOPRA would provide technical support to smallholders. The OPIC head office, the Oil Palm Infrastructure Development Unit (OPID)⁶ and field offices would work closely with the palm oil milling companies. All entities would collaborate on information required for provincial access road reconstruction and maintenance and smallholder productivity enhancement. The PNGSDP would participate as the financier of the oil palm in-fill program, in which it would work closely with OPIC and the milling companies in a specific package of oil palm road construction in Oro and in providing "seed capital" for road maintenance funds that would be established to provide for road maintenance during and subsequent to the project.

27. **Component 2.** Other development partners already support the performance of sub-national governance and decentralization. The Sub-National Initiative supports provincial and local-level governments to improve their public administration and strengthen their planning, budgeting, implementing and monitoring cycle. The Australian aid efforts concentrate on the provincial and district level, notably through support to the Provincial Performance Improvement Initiative (PPII), led by the DPLGA. In contrast, the proposed component would focus on the demand-side of local governance below the province level. The three districts targeted by Component 2 are in two provinces that are being included in the PPII. Opportunities to coordinate the activities and, in particular, to develop the capacity of local government and district administration, are strong. The DPLGA would monitor Component 2 and, to provide opportunities for mutual learning and coordination, would submit progress reports to PPII twice a year. It is expected that the component would eventually encourage demand at the community level for greater accountability in the use of other streams of local development funding, including the District Support Program.

2. Institutional and Implementation Arrangements

28. **Project Management.** OPIC would take overall responsibility for management, coordination and performance of the project. Based on a review of OPIC's current financial

⁶ OPID is the infrastructure unit of OPIC.

management and procurement capabilities, OPIC management has agreed to increase its capacity before the project starts (see Annex 7, paragraphs 12-15) through: (a) training the financial controller and project accountants to use improved accounting systems; (b) increasing the OPIC finance/procurement staff; (c) updating the chart of accounts; (d) establishing internal audit systems, and (e) training the financial controller and one procurement staff each in Port Moresby, Oro and WNB. The overall project would be overseen by a Project Steering Committee (PSC) chaired by the Secretary of the Department of National Planning and Monitoring (DNPM) and comprising representatives from government departments and agencies which would include, but not be limited to, the Department of Treasury, the Department of Agriculture and Livestock, the DEC, the DOW, the DPLGA, the Department of Community Development, Provincial Governments and PNGSDP. The role of the PSC would be to provide guidance on policy matters and quality control for annual work programs and budgets and to facilitate critical decisions for the implementation of various components.

29. **Implementation.** OPIC would implement the project in accordance with the PIM, including three sub-manuals (Smallholder Oil Palm In-fill Planting Sub-Manual, Road Reconstruction Sub-Manual, and Community Development Sub-Manual), the Financial Management Handbook, the EMP, and the RPF. Component 1 would be managed by the OPIC head office in Port Moresby and implemented by its offices in the project areas. OPIC would implement the planting of new oil palm through in-filling (9,000 ha) and smallholder productivity enhancement activities, with the support of the palm oil milling companies, PNGOPRA and PNGSDP (see Annex 4, paragraphs 3-9 and 37-40). A Road Engineering Unit staffed by internationally recruited engineers and a procurement specialist attached to OPIC would oversee the road engineering, tendering and equipment procurement and give support to OPID units that would be established at each OPIC scheme office. Each OPID office would be headed by an engineer seconded from DOW who would report to OPIC management. The OPID units would prepare operational plans for reconstruction (550 km) and maintenance, and provide local supervision (see Annex 4, paragraphs 10-36).

30. A Management Agency⁷ would be contracted by GoPNG (through OPIC) to provide management services for Component 2 implementation. The agency would be responsible: (a) to set up LCTs at the provincial-level; (b) to select and contract consultants and service providers to carry out all capacity-building activities; (c) to carry out M&E activities; and (d) to transfer the grants and manage the grant accounts at the LLG levels and transfer funds for sub-project activities to the SITC's accounts at the LLGs' request. Day-to-day coordination of Component 2 would be provided by the LCT in each province.

31. The role of the LCTs would be: (a) to provide support to the LLGs and district administrations in the implementation of the planning and budget processes described in the PIM; (b) to assist in project M&E; (c) to produce progress reports; and (d) to authorize disbursements to SIT accounts, upon request by the LLGs. Staff of each LCT would include a Community Participation Specialist and a Financial Management Specialist. The LCTs would be located in the provincial/district building and would be expected to reinforce the capacity of the provincial/district administration to interact with local communities and LLGs (see Annex 7, paragraphs 16-24).

⁷ Hiring a management agency would allow OPIC to concentrate on its core activities. OPIC would contract services from an institution that has local knowledge, is experienced with local communities, has worked with participatory approaches and has the capacity to support the government and IDA in engaging in a dialogue about local governance.

32. The LLG manager, with the support of the LCTs, would ensure that the participatory planning and budgeting and all implementation processes are on track and comply with the PIM. Development committees with wide representation from the communities (at LLG level) would be responsible for discussing plans and prioritizing sub-projects. SITs would be responsible for the implementation of individual sub-projects at the community level. The SIT role would be to conduct community procurement processes in the conditions described in the PIM, to supervise the implementation progress of the sub-projects and to make payments to the contractors or service providers. District and provincial administrations would provide technical and extension support to SITs. Capacity development activities would be conducted at all levels to support these processes (see Annex 4, paragraph 62).

3. Monitoring and Evaluation of Outcomes/Results

33. A Management Information System (MIS) would be developed for the project which would be “user-friendly” and adapted to the local communications and technology constraints. The proposed MIS would be based on the current OPIC’s Monitoring and Evaluation system at central level in Port Moresby and in its provincial offices, and would further build on the experience that OPIC had gained during the implementation a previous IBRD financed project (the Oro Smallholder Oil Palm Development Project). OPIC would hire a M&E consultant within the first three months of project implementation to design the MIS for the project, in coordination with the design of the specific M&E system for Component 2. OPIC would also carry out a baseline survey, funded under the project, within the first six months of implementation and would conduct impact evaluations at the mid-term and the end of the project. The MIS would enable the continuous monitoring of in-fill planting, extension, road construction and maintenance activity outcomes and results under Component 1 and would incorporate M&E data from Component 2. OPIC would be responsible for creating the MIS for the whole project, including consolidating reports for component 2 activities, and preparing half-yearly, annual and other project progress reports.

34. For Component 2, M&E is an integral part of the component design, being part of the core activities of the component and being weaved into each of the implementation steps under the component (see Annex 4 for more detail). In practice the whole process of community mobilization and empowerment is based on including and making M&E a part of the activities to assure local communities of the proper handling of resources and to introduce transparency and efficiency in local expenditure processes. Annex 3 outlines the indicators to measure the achievement of the project’s development objective and the components’ outcomes. The Management Agency responsible for implementing Component 2 would hire a M&E consultant within the first three months of the project to design an M&E system for Component 2 with additional specific indicators, and to design the surveys to collect baseline data. The M&E system would be results-oriented and would be used as a management and learning tool by GoPNG, project staff and participating LLGs and communities. The M&E system would also take into account the existing system set by the DPLGA to be replicable, the system would focus on:

- monitoring due diligence, component performance, compliance with the PIM and the achievement of the development objective and outcomes;
- participatory M&E to track the progress of sub-projects with respect to the desired outcomes and results. Progress on indicators would be shared and communicated through open meetings and signboards to reinforce social accountability and local governance; and

- monitoring the impact of the component on accountability and local governance, through a set of separate indicators. This would inform GoPNG (in particular DPLGA) and IDA, and would lead to a greater policy dialogue among development partners.

35. In addition, an external evaluation would be conducted: (a) at the end of project year 2 to assess the component's performance and participation processes and to revise the PIM as necessary; and (b) at the end of project year 4 with a focus on the impact of the component on local governance and accountability.

4. Sustainability

36. Overall, the oil palm industry has performed very well in PNG and its prospects are favorable. PNG is an efficient oil palm producer with comparative advantages in international trade, and the favorable projections of international market prices for oil palm products should continue to allow profitable production. The industry has the support of GoPNG as one that can generate substantial export earnings and enhance rural incomes and household welfare. However, there are substantial differences in performance between the estate sector, which is supported by major private sector investments in palm oil milling companies, and the smallholder sector, with smallholder yields averaging between 50 to 70 percent of estate levels.

37. A major aim of the project would be to ensure the sustainability of the important smallholder element of the industry in PNG. One major issue that has threatened smallholder oil palm production has been ensuring regular road access to collect FFB. The project would upgrade the road access system and then ensure its maintenance in a usable condition. Funding for road maintenance would be contributed by smallholders (through a levy on FFB), palm oil milling companies and provincial governments. The in-filling of oil palm along existing access roads would spread the annual cost of roads over greater production to increase the economic efficiency of the smallholder component of the industry and support its long-term viability. Yield per ha would be increased through a reorientation of OPICs extension program and continued and easy access to production inputs. The service institutions of OPIC and PNGOPRA are largely funded by grower levies and milling company contributions. An overall increase in smallholder production through in-filling and yield increases, combined with the extensive program of smallholder oil palm replanting that the palm oil milling companies are undertaking, would generate greater funding; this would enhance sustainability of the existing service system.

38. To develop local community participation, the project would use decision-making channels set within the existing community and local government structures (while ensuring greater inclusion of community groups and, in particular, women), and would not undermine the legitimacy of elected representatives at the local level. This would be reflected in the composition of the LLG Development Council (the body responsible to make the final decision on Participatory Plans & Budgets and approval of individual sub-projects), which would include a mix of existing elected representatives (i.e., the ward councilors) and additional community representatives in equal numbers (with appropriate quotas for women). The project would also strengthen the capacities of province and district administrations and LLG administrations. LCTs would be transitional arrangements to support communities and LLG administration, providing initial capacity building and coordinating community facilitators. However, their role would be expected to decrease as communities go through the local investment cycle year after year. The project's significant focus

on capacity development would be geared toward skills enhancement of civil servants, citizens and communities who would participate in project activities.

5. Key Critical Risks and Possible Controversial Aspects

<i>Risk</i>	<i>Risk mitigation measures</i>	<i>Risk rating</i>
To project development objective		
Decline in commitment to smallholder oil palm by national and provincial governments, palm oil milling companies, and growers	Thirty years' experience demonstrates strong commitment by stakeholders, even in times of low prices. Government strategy of export promotion to revive country's economy should intensify the government's future support for sector.	M
Lack of social cohesion and increased insecurity at local level	Project would support a participatory approach (CDD) to foster cohesion. Security would be enhanced by improved road networks and an increasing trend toward growers being paid by crediting their bank accounts.	S
To component results		
Provincial government does not provide required funding contribution for road maintenance	OPIIC, palm oil milling companies, and growers associations would maintain pressure on provincial governments to make funds available. When possible, provincial governments' contributions would be quarantined from dividend payments and by national government.	H
Delay in award of contracts through Central Supply and Tender Board (CSTB)	Monitor progress of all submissions to CSTB, which would be facilitated by the appointment of a road engineering unit and a procurement specialist.	S
Leakage in the Road Maintenance Trust Fund due to the design of flow of funds	The design of the Road Maintenance Trust Fund which will be carried out during project implementation will pay particular attention to the design of the flow of funds and will look at best practice models.	M
Insufficient number of local contractors with the capacity to perform required work	Package work into annual contracts for road reconstruction at each scheme, with sub-division into rational smaller packages suited to the capacity of local contractors. This provides opportunities for larger national contractors as well as local ones.	S
Financial and procurement capacity of LLGs and communities under Component 2 remains inadequate	(a) for the first two years, LLG Development Grants would be transferred to accounts managed by the LCTs – this would be reviewed at mid-term; (b) grant conditions would create incentives for compliance with requirements: e.g., communities to be empowered to demand greater accountability; public information disclosure by LLG to be a condition of grant disbursement; (c) training and community awareness programs as well as standard procedures outlined in the PIM would be implemented, and regular supervision conducted.	S
Performance of Management Agency under Component 2	The Management Agency will be selected by a thorough selection process and the TOR will outline in detail the specific responsibilities. Payments under the contract would be based in part on progress achieved, which would be based on previously agreed performance indicators. In addition control exists through the Project Steering Committee and regular IDA supervisions.	S
Overall risk rating		S

Note: Risk Rating: H = High Risk, S = Substantial Risk, M = Modest Risk, N = Negligible Risk.

39. The project would manage critical risks through the simultaneous strengthening and embedding in the design of: (a) mechanisms of community participation in decision-making and oversight of outputs; (b) complementary PNG regulation (through grant rules) and financial, procurement and social monitoring and independent auditing; (c) central policy evaluation capacity

to continue to fine-tune approaches to risk management; and (d) extensive consultations with civil society and the private sector (palm oil milling companies) in project design and implementation.

6. Credit Conditions and Covenants

40. Specific conditions of effectiveness would include: (a) the execution of the Subsidiary Agreement between GoPNG and OPIC; (b) the execution of the Co-financing Agreement among GoPNG, PNGSDP and OPIC; (c) the establishment of the PSC with composition acceptable to IDA; (d) the adoption of (i) the PIM, including the EMP and RPF by GoPNG and OPIC; and (ii) the Smallholder Oil Palm In-fill Sub-Manual and the Road Reconstruction Sub-Manual by PNGSDP; and (e) the establishment and staffing of the OPIC Project Office.

41. Conditions of disbursement would include: (a) under Category 1 (Civil Works), the establishment by OPIC of the Road Engineering Unit; and (b) under Category 4 (Community Development Grants), the contracting by OPIC of a Management Agency for implementation of Component 2.

D. APPRAISAL SUMMARY

1. Economic and Financial Analyses

42. **Economic analysis of Component 1 activities.** The project would be a good investment for PNG and its people. The conservative Economic Rates of Return (ERRs) for Hoskins, Bialla and Oro are 18.3%, 13.2% and 17.2%, respectively. The overall project ERR is 16.7% under the assumptions shown. The net present values (NPVs) for Hoskins, Bialla and Oro are US\$5.6 million, US\$0.6m, and US\$4.7m, respectively (US\$11.0m overall). A sensitivity analysis indicates that the project's ERR is robust. Smallholders who participate in the project would inject on average K10 million (US\$3.6m) annually into the economy in years 4 to 10 of production, and K25 million (US\$8.9m) annually in years 11 to 23 of production, thus stimulating the local and national economy. The assumed increase in current smallholder oil palm deliveries of FFB, through improvements in the condition of the road network and improved extension to enhance productivity, is realistic; it represents an average increase of between 2.4 and 2.7 tons per ha per year, an increase of 17% to 19%, whereas the yields attained by the company estates are currently 60% higher than those of the smallholders.

43. **Financial analysis of smallholder oil palm and repayment of establishment costs.** Smallholder financial rates of return (FRRs) and income generation from participation in the project would be substantial. The FRRs for smallholders in Hoskins, Bialla and Oro schemes are 27%, 24%, and 22%, respectively, and represent higher rates of return than alternative smallholder investment opportunities. Once established, smallholder oil palm net incomes (excluding labor cost) would average K1,800 for two ha (US\$643) in years 4–10 of production and K5,000 for two ha (US\$1,785) in years 11–23. This income represents a substantial return to labor and equates to an average return over the entire production period of K90/day worked (before debt service)—more than 16 times the K5.5 minimum wage.

44. Under the project, smallholders could borrow up to K1,900/ha (US\$678) for seedlings, seedling transport, fertilizer and small tools for establishment. The economic and financial analysis uses a FFB price derived from the moving average palm oil price over the period 1996 to 2006. The

cash flow analysis indicated that servicing the debt would be well within the means of smallholders and would permit sufficient cash flow after debt repayment for their livelihood requirements and other obligations.

45. **Impact of Component 2 activities.** An economic analysis of Component 2 activities was not undertaken because of the difficulty of quantifying the benefits. However, Component 2 community development activities would improve local infrastructure, increase social accountability and improve local governance. All three are conducive to improving the local economic and social climate, leading to an increase in local economic activity. The reconstruction and sustainable maintenance of the provincial access road system would benefit not only the oil palm industry but even more substantially the rural economy and the quality of life in rural communities.

2. Technical

46. PNG has a sufficient technical base for the continued development of the smallholder oil palm sector. The country has several decades of experience with oil palm and has established institutions such as OPIC (extension) and PNGOPRA (research and pest control). The palm oil milling companies also provide valuable technical inputs and provide high-quality seedlings and other inputs to the smallholders. Nevertheless, the project would strengthen the technical base by: (a) enhancing OPIC's capacity to undertake improved M&E; and (b) increasing its extension activities and outreach through provision of technical assistance (e.g., an extension specialist responsible for the project's productivity enhancement activities - Annex 4, paragraphs 37 and 38).

3. Fiduciary

47. A Financial Management Assessment was undertaken according to Financial Management Arrangements in Bank Projects (Guidelines to staff)⁸. The project's financial management arrangements currently in place meet the minimum requirements as stipulated in OP/BP10.02. The financial management arrangements would be mainstreamed into OPIC financial management at head office and at provincial level. The suggested time-bound action plan and the plans that OPIC has already developed for enhancing its operations would further strengthen the accounting system in place. The arrangements at community level would involve maintaining simple books and providing monthly reports listing their expenditures and receipts. Communities would also keep and maintain receipts for all payments made. The maintenance of a register for all contributions made would enhance valuation of the same for purposes of reporting on a monthly, quarterly and annual basis.

48. An assessment of OPIC's capacity to implement procurement actions for the project was carried out; the overall project risk for procurement would be "high", consistent with the Country Procurement Assessment Report. The main issues/risks concerning procurement for implementation of the project have been identified as: (a) OPIC's lack of procurement expertise; (b) recent changes in the national procurement regulations; and (c) complex procurement scope (civil work contracts in remote areas). An action plan has been adopted to mitigate such risks.

⁸ Issued on June 30, 2001, as amended and re-issued on October 15, 2003.

4. Social

49. The Social Assessment (SA) commissioned by OPIC indicated that the proposed project would have a positive impact on the communities in the project area. In particular, the SA highlighted the deteriorating state of the provincial roads and associated problems as major concerns of communities. The SA confirmed that the reconstruction and sustainable maintenance of the provincial access road network along with the proposed oil palm in-filling activities of the project would substantially benefit women and youth. The SA recommended strengthening the capacity of OPIC by appointing, training or recruiting staff to coordinate collaborative programs with external organizations, address land issues, and foster greater inclusiveness. OPIC also should support existing activities undertaken by provincial governments, CBOs and NGOs to address the rising incidence of HIV/AIDS among oil palm communities in the project areas. All these recommendations have been integrated into the project design.

50. PNGOPRA's capacity to research smallholder livelihood development also should be expanded. Additionally, it was recommended that the capacity of the growers' associations be reinforced to represent more effectively the interests of their members. The SA confirmed the risks of "enclave development" due to the declining capacity of local institutions and poor community involvement in basic service delivery and accountability. To address the weak institutional capacity among local community-based groups and local governments, the SA recommended building the capacity of the LLGs and encouraging partnerships among local institutions by using community organizations with proven track records in community development. Finally, the SA offered a detailed framework and operational instruments for the household-level baseline survey to monitor social impacts and to measure project performance during and after the implementation period. Again, recommendations have been heeded in project design.

5. Environment

51. Since the identification mission in early 2003, OPIC and the IDA team have discussed the proposed project design at length with DEC. In accordance with the Environment Act 2000, in April 2006 OPIC submitted to DEC a "Notice of Intention to Carry out Preparatory Work" on the project. According to DEC, PNG law does not require an Environment Permit to carry out the proposed project activities.⁹ Nevertheless, in the event of a risk of environmental harm caused by oil palm cultivation, DEC may use appropriate provisions under the act to "call up," or require, owners of village oil palm blocks to apply for Environment Permits. The change of emphasis of the proposed project (from replanting 6,500 ha and new planting 6,000 ha ("in-filling" along existing roads), to in-filling of up to 9,000 ha with no replanting) was discussed with the relevant DEC officials. DEC confirmed that its letter of May 23, 2006 would remain valid so long as the principle of "in-filling" along existing roads was maintained and the provisions in the DEC letter adhered to. In addition, OPIC commissioned a draft Environmental and Social Management Framework (ESMF) to ensure that the local investment cycle integrates environmental and social safeguards.

52. OPIC commissioned an Environmental Assessment (EA) and an EMP to minimize potential adverse effects that the project might have on the environment. The EMP contains strict guidelines for deciding whether a given area of land adjacent to an existing road in oil palm areas could be converted to oil palm under the project. The EMP also provides for monitoring by DEC and

⁹ Letter to OPIC from DEC dated May 23, 2006.

independent environment & social auditors. The EA noted that all existing palm oil milling companies in PNG are ISO14001 certified and have signed up to the Roundtable for Sustainable Palm Oil (RSPO). The latter contains provisions for immediate response to concerns expressed by people and organizations living and associated within the oil palm growing areas.

6. Safeguard Policies

Safeguard policies triggered by the project	Yes	No
▪ <u>Environmental Assessment</u> (OP/BP/GP 4.01)	[X]	[]
▪ <u>Natural Habitats</u> (OP/BP 4.04)	[X]	[]
▪ <u>Pest Management</u> (OP 4.09)	[X]	[]
▪ <u>Cultural Property</u> (OPN 11.03, being revised as OP 4.11)	[]	[X]
▪ <u>Involuntary Resettlement</u> (OP/BP 4.12)	[X]	[]
▪ <u>Indigenous Peoples</u> (OD 4.20, being revised as OP 4.10)	[X]	[]
▪ <u>Forests</u> (OP/BP 4.36)	[X]	[]
▪ <u>Safety of Dams</u> (OP/BP 4.37)	[]	[X]
▪ <u>Projects in Disputed Areas</u> (OP/BP/GP 7.60)*	[]	[X]
▪ <u>Projects on International Waterways</u> (OP/BP/GP 7.50)	[]	[X]

* By supporting the proposed project, the World Bank does not intend to prejudice the final determination of the parties' claims on the disputed areas.

53. The project complies with the Bank's Indigenous Peoples Policy (OP 4.10/BP 4.10), specifically with regard to the requirement of "Free, Prior and Informed Consultation"; all participation in the project would be voluntary and the components would be implemented in a highly participatory manner to benefit the indigenous people of PNG. No separate Indigenous People Plan (IPP) has been prepared as the project as a whole constitutes the IPP. This is done as all people of PNG are considered as indigenous according to the policy (see Annex 10, for more detail).

7. Policy Exceptions and Readiness

54. The Project is consistent with all applicable Bank policies and will not require any exceptions.

Annex 1: Country and Sector Background

PAPUA NEW GUINEA: Smallholder Agriculture Development Project

Economy

1. Papua New Guinea, with a population of 5.8 million, is a small, open economy characterized by dependency on a small number of primary commodities which makes the economy vulnerable to exogenous shocks.¹⁰ The economy is dominated by a large labor-intensive agricultural sector and a capital-intensive oil and minerals sector. Ineffective fiscal management and poor expenditure selections have exacerbated this volatility. Economic policy measures under the Structural Reform Program (1999–2001) focused on restoring microeconomic stability following the 1999 financial crisis, and implementing wide-ranging structural and governance-related reforms. Considerable progress was achieved through 2001, namely: reduction in inflation from 18% in 1999 to 6% in 2005 and projected 1.7% in 2006; easing of treasury bill yields from 27% to approximately 5% in 2005; and the rebuilding of international reserves from an estimated two weeks of import cover to five months of import cover at the end of 2001 and to six months in 2005. The economy rebounded in 2003–2004 due to favorable commodity prices, strengthened expenditure controls, improved macroeconomic management and removal of some supply constraints. The fiscal deficit returned to a surplus of approximately 1% GDP in 2004 (World Bank Interim Strategy Note for PNG, 2005). The currency remained stable throughout 2005, appreciating by approximately 1% against the US\$.

2. Despite making much progress since the financial crisis of 1999, there are concerns that the growth may not be sustained. Real GDP is estimated to have contracted by an average of 3.3% per year during 2000–02. The economy did recover and is estimated to have grown by 2.8% in both 2003 and 2004 and 3% in 2005, with 3.7% projected for 2006. However, economic growth may not be sustainable because most mining projects are phasing out and agriculture is underperforming. The real value of total agricultural GDP has remained stagnant over the last 22 years, with the exception of the oil palm sector which grew at a rate of 6% per annum over the past 15 years.

Agriculture Sector

3. The agricultural sector in Papua New Guinea, although underperforming, is central to the livelihood of the population and overall performance of the economy and remains critical to development and poverty reduction:

- Agriculture contributes approximately 25% of GDP.
- 85% of the country's population (95% of which are smallholder farmers) relies on agricultural production as its principal source of livelihood and income.
- Smallholder farmers' contribution to production is approximately 75% in coffee, 65% in cocoa and coconut, 32% in oil palm, 70% in sheep production, and 90% in pig and goat production.
- Subsistence food production accounts for almost one-half the value of all crop production.
- Almost 40% of employment in the agricultural sector comes from private enterprises.
- Agriculture accounts for approximately 13% of total exports.

¹⁰ 70% of export earnings come from crude oil, gold, copper, logs, vanilla, palm oil and coffee.

4. Agricultural output and productivity have been adversely affected by the deterioration of conditions in rural areas, especially poor road infrastructure and problems of law and order. To this end, the government has allocated a significant share of the budget to address these issues. In addition, the following needs have also been identified as essential to improving the performance of the sector: (a) an agriculture strategy with defined and specific institutional responsibilities, especially at lower levels of government; (b) adequate research and extension services; (c) establishment of mechanisms to resolve competing land claims and land compensation issues; (d) resolving difficult issues of governance, decentralization and public service delivery; and (e) improving the involvement and well-being of women in agricultural activities. The government, through assistance from FAO, formulated a National Agriculture Development Plan which will define strategies to deal with the above issues.

5. The industry corporations are responsible for the organization, management and coverage of smallholder research and extension. With the exception of OPIC, these corporations have encountered some of the same institutional difficulties that beset government agencies. Through there is a reasonable focus by government on export crops, there continues to be little consistent support directed towards traditional food crops with the exception of some work by the National Agricultural Research Institute (NARI).

6. Rural financial services have not been able to meet the credit needs of most agricultural producers and small non-farm business enterprises. Formal government efforts, such as the Rural Development Bank, have not yet established profitable or sustainable approaches but have instead channeled scarce public resources to less needy producers. The credit issue is also closely related to customary communal land tenure under which banks will not accept land as collateral. It is also related to crime where individuals are reluctant to invest and banks are reluctant to lend in an environment where part or all the return of the investment or its output may be taken or destroyed. Private credit, through the nucleus estates and agricultural input suppliers, does occur and is satisfactory for those who qualify, but excludes many potential rural borrowers, especially individual entrepreneurs and small-scale rural businesses.

Oil Palm Sub-Sector

7. Oil palm is the country's leading agriculture sector foreign exchange earner, and has an unbroken record of success since the original plantings almost 40 years ago.¹¹ It is very well adapted to the soils and climate of the areas of PNG in which it is grown and productive cultural techniques are well established. The oil palm sub-sector is based on the nucleus estate system. There is a well-established relationship among the three entities involved—the private sector palm oil milling companies with their own plantations and mills, the smallholder growers, and OPIC. The basic framework for the smallholder oil palm development aspects of the project

¹¹ The country has five oil palm development schemes: Popondetta (Oro province), Hoskins and Bialla (West New Britain province), Milne Bay and New Ireland. In addition to estate plantations, all five schemes have Village Oil Palm (VOP) growers farming an average of two ha of oil palm on customary land. Three schemes (Popondetta, Hoskins and Bialla) have land settlement schemes (LSS) where migrants from different parts of PNG have settled on blocks of approximately six ha of which some or all is devoted to oil palm. Over time, there has been an increase in the number of people living and deriving incomes from the same oil palm land base which has put tremendous pressure on the socio-economic structure of the smallholder oil palm communities.

directly derives from that adopted under the previous Oro Smallholder Palm Oil Development project.

8. Under this system, the palm oil milling companies: (a) provide the milling capacity for the FFB from their own estates and from the smallholder outgrowers; (b) collect FFB from roadsides in the smallholder supply areas at fortnightly intervals, mostly using their own transport fleet; (c) supply essential production inputs such as seedlings (for planting and replanting), fertilizer and tools; and (d) pay growers for deliveries either fortnightly or monthly, and maintain an accounting system that enables deductions from each grower's FFB payment to meet repayments due on development and/or production input loans from the concerned lending entity. There is a Palm Oil Producers Association (POPA).

9. Smallholder oil palm producers: (a) provide their own land (either in settlement schemes which are usually six ha in area or on village land with a clan usage right which are usually two hectares) for oil palm development¹²; (b) plant and tend the palms (weeding, fertilizing and pest control)¹³, receiving credit-in-kind for the non-labor inputs; (c) harvest the FFB and deliver it to the roadside to meet the planned collection schedule; (d) undertake replanting at the end of the production cycle (usually 23 years) when the excessive palm height precludes harvesting; and (e) contribute levies as deductions from net FFB payments for various services such as extension (OPIC), research (PNGOPRA) and Sexava control.

10. OPIC: (a) provides technical assistance to oil palm smallholders and has staff located in each scheme; (b) cooperates with palm oil milling companies in the smallholder development (planting and replanting), in the supply of inputs, and in scheduling of collection in response to weather-related road access problems; and (c) represents the smallholder interests in dealing with government and palm oil milling companies, and participates in the Local Provincial Planning Committees (LPC) that coordinate the development of smallholder oil palm in the provinces. OPIC is funded by the industry through the collection of levies from the palm oil milling companies and from smallholders on the basis of FFB production. However, it can be assisted through the development budget for development investments, as can occur in internationally funded projects involving the sector. The OPIC Board has grower, milling company and government representatives. Table A1.1 presents estate and smallholder production details by the three project oil palm schemes.

11. There is a strong interdependency between smallholders and palm oil milling companies. The companies use OPIC in most of their dealings with smallholders, and match the smallholder contribution of the OPIC levy to cover its operational costs. The palm oil milling companies have very limited access to land for their own estates and need smallholders to provide the

¹² The management and the income from smallholder oil palm plots may be organized and shared in various ways. A one family unit may undertake the management or an elderly couple may share the management and income amongst themselves and their children's families who live on the same land. In this latter case, the various family units may take their turns to harvest alternate fortnights and keep the income. Most schemes operate on a card system of payment where card holders bank accounts are automatically credited after the FFB has been weighed and transported to the mill. Several individuals may hold a card for the same palm oil block. The "Mama Lus Frut" scheme permits women household members to have their own card for selling loose fruit and FFB from the main harvest.

¹³ Pest control of smallholder holdings is monitored by the growers and OPIC. Actual control of diseases and pests (such as Sexava) is carried out under the direction of PNGOPRA by OPIC using Integrated Pest Management (IPM) methods. All materials for controlling diseases and pests are purchased through OPIC and PNGOPRA.

volume of FFB to use mill capacity efficiently and expand to reach appropriate economies of scale. Smallholders completely depend on the palm oil milling companies to process their FFB and, in most cases, to collect their FFB. The companies market the palm oil derived from the smallholder and estate production. A satisfactory mechanism to ensure appropriate profit sharing between smallholders and the palm oil milling companies is in place, consisting in the application of a FFB price formula which is regularly reviewed and updated. The capacity of the palm oil company as the sole processing/marketing entity to deduct repayments due on smallholder sub-loans is a major advantage for institutions providing credit to minimize any lending risk.

Table A1.1 Estate and smallholder production details by project scheme, 2005

	NBPOL (Hoskins)	HOPL (Biialla)	HOP (Oro)	Total Three Schemes
Estate				
Area in mature oil palm (ha)	26,321	7,175	8,996	42,492
FFB production (tonnes)	628,572	157,777	190,000	976,349
FFB tonnes/ mature ha	24	22	21	23
Smallholder				
Number of smallholder blocks a/	7,120	4,920	4,707	16,747
Total hectares	23,634	13,547	14,285	51,466
Hectares in production	20,289	9,977	9,216	39,482
FFB Production (tonnes)	323,211	143,369	132,607	599,187
FFB production/ total ha (tonnes)	13.7	10.6	9.3	12.0
FFB production/ producing ha (tonnes)	15.7	14.5	14.3	14.8
Km of access roads in SH network	980	720	1,070	2,770
Total hectares/ km of access roads	20.7	13.9	8.6	14.3
Production hectares/ km of access roads	24.1	18.8	13.4	18.6
Total Hectares b/	49,955	20,722	23,281	93,958
Total FFB production (Tonnes)	951,783	301,146	322,607	1,575,536
Smallholder share of production (%)	34%	48%	41%	38%

a/ Most are 2 ha blocks with the remainder made up of 4 ha, 6 ha and larger blocks.

b/ Together, Milne Bay and New Ireland have about 17,000 ha of oil palm of which 20 -25% is smallholder production.

12. Challenges and Problems of Smallholder Communities. A major problem of the smallholder oil palm communities is overall low oil palm output and productivity. This results in low incomes and low living standards. Low productivity largely stems from poor smallholder management. Only one half to one third of the recommended amount of fertilizer is used by smallholders and this substantially decreases production; yields of many smallholders are between 50-75 percent of estate oil palm production. Recommended weeding practices are also not always adhered to. At times, smallholders do not harvest all the FFB on the oil palm block. Some smallholders only harvest the FFB from their land that is closest to the access road and leave the rest. Some smallholders harvest once a month or less frequently, not fortnightly as recommended.^{14 15}

¹⁴ Various reasons have been advanced as to why poor management exists: (a) agreement cannot be reached about who should pay for the fertilizer where more than one family derives income from the same plot of land; (b) all the FFB is not harvested because the smallholder operators are elderly and only harvest what is easiest; and (c) some smallholders do not want to spend the money on fertilizer nor pay for the cost of credit.

¹⁵ Palms need to be replanted approximately every 20 to 23 years because they grow too tall to harvest. The program to replant is behind in two of the three major schemes and has contributed to lower productivity. However, the palm oil milling companies together with OPIC and smallholders have a program to catch up with the replanting in a few years time.

13. Income is not only low for some smallholders but also variable and at times uncertain for a segment of smallholder oil palm producers. Most access roads are not properly maintained and at times the trucks cannot pick up the FFB which adds to the uncertainty of income. Furthermore, in the rainy season, some smallholders cannot get their FFB picked up by the trucks because the access roads are impassable which can last for several months at a time.¹⁶ Moreover, the access roads in many locations are deteriorating rapidly causing high maintenance costs for the FFB trucks and increased costs for FFB transport to the mills.¹⁷ If not upgraded shortly, many access roads could become completely impassable meaning that some smallholders would be unable to sell their harvest at any time of the year. The problem of decreased harvest due to inaccessibility of access roads also mitigates against the use of good management practices (such as proper fertilizer use-levels) because smallholders are unsure of obtaining all the benefits from incurring the additional cost.

14. The poor condition of the road network also has a detrimental effect on other rural road users. The smallholder oil palm growers at project completion would include about 21,500 extended rural households in the three schemes, which equates to 215,000 persons. The network provides the main road access to all households in the serviced areas, including households without oil palm blocks in the same oil palm communities, and households in other communities that do not have oil palm because of their distance from the network but which use the network for all personal transport (public motor vehicles) and for the transport of their (less bulky and lighter) market produce. The actual number of oil palm growers using the network equates to about one-third of the total rural households who depend on it.

15. A further challenge for both oil palm and non-oil palm communities in oil palm growing provinces is receiving appropriate support for community services from local level and provincial governments. While the oil palm community can count on a certain level of support from OPIC and the palm oil industry, services have not been adequately supported by local level governments. As a result, the living standards of both communities have suffered in terms of inadequate roads and transportation, as indicated above, but also in general communications, education, health care, sanitation and basic water facilities. While the basic structure for local governance is largely in place, major problems exist because of the centralized, supply-driven approach to local development and a lack of transparency and accountability that often constrain the flow of funds to carry out programs that provide services to improve living standards. Increasing the production and productivity of oil palm and increasing the services from local level governments are both required to improve the living standards of rural communities in the project areas.

¹⁶ Comprehensive data on the actual tonnages lost in each scheme through lack of harvesting caused by inability to collect FFB, and loss of FFB after harvest by road damage preventing collection of harvested FFB, are not available. Anecdotal evidence of losses is substantial, however. Losses of FFB due to road related collection problems would be monitored under the project as a quantified performance indicator for the road improvement and maintenance investments.

¹⁷ The cost of transport and road maintenance per ton of FFB harvested is lowest if the density of oil palm blocks is maximized along each access road through in-filling vacant oil palm blocks. Transport and road maintenance cost per ton of FFB increases as the density of oil palm blocks along a road decreases.

Decentralization Context and Local Governance

16. Despite being in force for more than ten years, there is a widely held view that the sub-national public institutions established under the 1995 Organic Law on Provincial and Local-level Governments reforms are still not performing their roles effectively. Among the reasons cited for the poor performance include inadequacy of resources; financial mismanagement; lack of capacity; inadequate legal provisions; and excessive political interference. The overall performance of the local government system thus constrains development prospects and has a negative impact on local governance.

17. A recent World Bank Stocktaking of Participatory Community Based Development Initiatives in PNG¹⁸ confirmed that the overall local governance environment continues to be characterized by a limited downward accountability of public institutions to communities, a poor transparency in the use of public funds, a low level of public access to information (especially with regard to the possible use and application of public funds) and a misuse of public funds either for private personal gain (corruption) or through misdirection of resources to non-priority uses (elite capture). Those problems are usually reinforced by a range of interlinked factors which have contributed to and continue to reinforce these low governance outcomes, such as a constrained space for the development of more accountable local institutions (due to the preeminence of communities composed of kinship-based networks), the limitations of NGO-Supported Approaches (building up parallel lines of funding and implementation to communities), that eventually lead to a “Low Governance Trap”. The interaction of LLGs that are not functioning effectively and intermediary organizations that are better resourced and are directly supporting community’s activities through parallel systems and structures is having a perverse impact on local governance, resulting in a Low Governance Trap that is hard to escape. Consequently, the review recommended supporting small-scale phased approach on CDD to assess the potential of existing programs of GoPNG and development partners for introducing CDD approaches that would help to operationalize the community participation and empowerment principles of the Organic Law at the local level.

¹⁸ “Stocktaking of Participatory Community Based Development Initiatives: issues, options and opportunities for strengthening governance and improving service delivery at the local level.” World Bank, EASRD, 2006.

Annex 2: Major Related Projects Financed by the World Bank and/or other Agencies

PAPUA NEW GUINEA: Smallholder Agriculture Development Project

Sector Issues	Project	Ratings	
		Implementation Progress (IP)	Development Objective (DO)
World Bank Financed in PNG			
Perennial Crops, Rural Roads, Natural Resource Management	Oro Smallholder Oil Palm Development Project (FY 93, closed FY 01)	S	S
Roads	Road Maintenance and Rehabilitation Project	S	S
Natural Resources Management	Forestry and Conservation Project	NR	NR
Governance	Governance Promotion Adjustment Loan Project	S	S
Natural Resources Management	Gazelle Restoration Project	S	S
Emergency Assistance	El Nino Drought Response Project	U	U
Other Development Agencies			
Asian Development Bank	Roads		
AusAID	Roads		
AusAID	Community Development Scheme		

Annex 3: Results Framework and Monitoring
PAPUA NEW GUINEA: Smallholder Agriculture Development Project

Results Framework

PDO	Outcome Indicators	Use of Outcome Information
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	<p>Increase in smallholder income from oil palm production</p> <p>Increase in the level of funds and resources invested by local communities in their local development</p>	Enables stakeholders to determine suitability of project's approach in strengthening smallholder oil palm sector and the replicability of tested mechanisms for promoting participatory planning and local accountability
Intermediate Results One per Component	Results Indicators for Each Component	Use of Results Monitoring
<p>Component One:</p> <p>Increased smallholder revenues from oil palm production in an environmentally sound manner</p>	<p>Component One:</p> <p>Decrease in FFB losses due to road-related collection problems</p> <p>Decrease in the transport cost along rehabilitated roads</p> <p>Increase in smallholder yields</p> <p>Decrease in number of non-compliance incidents from environmental audit</p>	<p>Component One:</p> <p>Determines suitability / sustainability of road maintenance arrangements</p> <p>Determines if extension mechanisms are effective</p> <p>Indicates increased environmental awareness and compliance with environmental guidelines</p>
<p>Component Two:</p> <p>Improved community participation and local governance in the project areas</p>	<p>Component Two:</p> <p>Percentage of people in targeted villages satisfied with their level of participation in local decision making processes at ward and LLG level</p> <p>Number of sub-projects commenced, successfully completed and maintained</p> <p>Level of contributions to sub-projects mobilized from local sources</p>	<p>Component Two:</p> <p>Determines if participation mechanisms are effective and inclusive</p> <p>Measures increased capacity of communities to manage resources</p> <p>Indicates increased capacity and responsiveness of local governments to deliver services</p>

Arrangements for results monitoring

Outcome Indicators ¹⁹	Baseline	Target Values					Data Collection and Reporting		
		YR1	YR2	YR3	YR4	YR5	Frequency and Reports	Data Collection Instruments	Responsibility for Data Collection
Increase in smallholder income ²⁰ (net, with reduction of transport loss and with material input costs) from oil palm production	K75.1 million ²²	K2.1 million ²³	K9.0 million	K15.0 million	K19.1 million	K21.0 million	Baseline, mid-term, and completion surveys	Surveys, interviews, and reports	OPIC
Increase in the level of funds and resources invested by local communities to their local development ²¹							Baseline, mid-term, and completion surveys	Surveys, interviews, and reports	OPIC/ Component 2 Management Agency
Results Indicators for Each Component									
Component One:									
Decrease in FFB losses due to road-related collection problems ²⁴	16% loss	13-16% loss	9-13% loss	5-9% loss	3-7% loss	3-7% loss	OPIC semi-annual progress reports	OPIC, Palm Oil Mills records	OPIC
Decrease in the transport cost along rehabilitated roads ²⁵	K21.5 million	0-4% reduction	8-12% reduction	12-16% reduction	14-18% reduction	14-18% reduction	OPIC annual reports	OPIC, Palm Oil Mills records, PNGOPRA	OPIC
Increase in smallholder yields (crop delivered to mills from mature harvested palms) ²⁶	15.2 t/ha	0-4% increase	5-9% increase	9-13% increase	13-17% increase	15-19% increase	Twice yearly	Environmental audits	OPIC
Decrease in number of non-compliance incidents from environmental audit ²⁷	Not available before initial audit	90% of baseline	50% of baseline	15% of baseline	5% of baseline	5% of baseline			

¹⁹ All values are preliminary pending the baseline survey.

²⁰ Assumes smallholder FFB farm-gate price projections of K122/t for Hoskins & Biialla smallholder schemes and K113/t for the Oro scheme.

²¹ This would combine local revenues collected by LLGs and contributions from communities towards the sub-projects.

²² Based on 2006 smallholder FFB production.

²³ Targets for each project year (YR1 to YR5) are not cumulative and represent the expected annual increase due to increased smallholder yields resulting from better agricultural practices and improved road conditions.

²⁴ Baseline calculated from estimate of FFB not collected in 2006 due to road conditions (15% Hoskins & Biialla, 18% Oro). Targets are of % of total estimated crop production that is not collected due to road conditions.

²⁵ Baseline is estimated transport cost in 2006 based on smallholder production and transport charge in FFB price formula. Target decrease from baseline cost is based on milling companies' estimates of impact of "bad roads" on transport cost. Baseline will need ongoing adjustment to reflect changes in fuel costs.

Component Two: Percentage of people in targeted villages satisfied with their level of participation in local decision making processes at ward/ LLG level Number of sub-projects commenced, successfully completed and maintained Level of contributions to sub-projects mobilized from local sources	Not available before the baseline survey	Target value would be determined after the baseline survey	Target value would be determined after the baseline survey	Target value would be determined after the baseline survey	Target value would be determined after the baseline survey	Target value would be determined after the baseline survey	Target value would be determined after the baseline survey	Target value would be determined after the baseline survey	Baseline, mid-term, and completion surveys	Surveys, interviews, and reports	Component 2 Management Agency
	0	20	65	80	90	Yearly	Yearly	Progress reports	Progress reports	Component 2 Management Agency	
	Not available before the baseline survey	Target value would be determined after the baseline survey	Target value would be determined after the baseline survey	Target value would be determined after the baseline survey	Target value would be determined after the baseline survey	Target value would be determined after the baseline survey	Target value would be determined after the baseline survey	Target value would be determined after the baseline survey	Yearly	Progress reports	Component 2 Management Agency

Notes:

- Baseline data and target values at the PDO and Component 1 levels are preliminary and would be adjusted following the baseline survey to be carried out by OPIC within the first six months of project implementation. The TOR is being drafted and OPIC would initiate the process of selecting a consultant before credit effectiveness.
- Baseline data and target values at the Component 2 level are not available and would be established following the baseline survey. The activities envisaged under Component 2 are new and there is little available information on the communities in the proposed project area. Collecting detailed baseline data and household information is part of the design of this component and an integral aspect for its success. The primary purpose of the M&E system will be to encourage learning and transparency about how a Local Governance and Community Participation intervention supports its objectives. It is envisaged that the baseline survey for Component 2 would be based on a sample of selected villages and LLGs in and outside the project area. These villages and LLGs would then be regularly monitored during project implementation. Specific TOR for Component 2 baseline are currently under preparation and potential sources of funds are being identified to enable the process of selecting a consultant to start before credit effectiveness.
- Simultaneously to conducting the baseline survey, OPIC would hire a consultant M&E specialist to design the project's MIS aimed at enabling the continuous monitoring and evaluation of the agreed outcome and results indicators. In close coordination with the design of the project's MIS, the Management Agency responsible for implementing Component 2 would hire a consultant specialist to design the specific M&E system for Component 2, aimed at monitoring specific component indicators and providing data for incorporation into the project's MIS.

²⁶ Baseline is derived from 2006 data for FFB per mature harvested ha. This weighted average takes into account relative size differences between the three smallholder schemes.

²⁷ Targets are the proportion of non-compliance incidents relative to the baseline audit.

Annex 4: Detailed Project Description

PAPUA NEW GUINEA: Smallholder Agriculture Development Project

Component 1. Smallholder Oil Palm Sector Productivity Enhancement

1. The objective of Component 1 is to address the problems and issues of low smallholder oil palm productivity which has contributed to low and variable incomes and reduced the overall economic return from oil palm in PNG. Low smallholder output and low productivity stem largely from: (a) poor smallholder oil palm management practices that include low fertilizer use levels, failure of smallholders to harvest the whole oil palm block, reduced frequency of harvest and failure to replant palms in a timely manner at the end of their useful lives; and (b) poor maintenance of the access road network which causes inefficient FFB collection and, at times, makes FFB collection impossible, especially during the prolonged rainy season.

2. The major activities of Component 1 that address these issues are: (a) to plant new village oil palm on the existing access road network (in-filling); (b) to upgrade and restore provincial access roads and to establish a sustainable financing mechanism for road maintenance; and (c) to enhance smallholder productivity through extension. The existing smallholder service provider demand and supply frameworks would be used and would be enhanced when necessary through project implementation arrangements and institutional support. Implementation of Component 1 would be consistent with the PIM, including the Smallholder Oil Palm In-fill Planting Sub-Manual, the Road Reconstruction Sub-Manual, the Financial Management Handbook, the EMP and the RPF.

Sub-Component 1 (a). Smallholder Oil Palm In-fill Planting

3. The project would include in-fill planting of 3,500 ha at Hoskins, 1,240 ha at Bialla and 4,000 ha at Oro, increases of 13%, 9% and 28%, respectively, in the three smallholder oil palm schemes (Table A4.1).²⁸ Not only would this development improve the economics of the total smallholder investment in supporting infrastructure and services, it would also increase delivery of FFB from the area serviced by a road. The increased delivery would reduce the financial burden on the smallholders, who would be obliged to contribute to the roads maintenance as some of the end-users of the road. In-fill planting activities would be undertaken in accordance with the PIM, including the Smallholder Oil Palm In-fill Planting Sub-Manual, the EMP and the RPF.

4. Development of an in-fill block would be considered if it met all the OPIC, DEC and IDA environmental guidelines for development of smallholder oil palm. These include topographic considerations, measures related to proximity to watercourses, preservation of protected flora and fauna, and the status of impacted forest at each site. Primary forest obviously is excluded. An impacted forest site could be eligible for smallholder oil palm development only if it is certain that the existing human pressure would not allow regeneration of the vegetation into forest. Even though a parcel of land for in-fill meets environmental guidelines, participation in the program would not be permitted if utilization of this land would expand household garden areas into zones that normally would be excluded on the same environmental grounds.

²⁸ Planting of smallholder oil palm is done through a consultation process that involves the communities, smallholders, OPIC and the milling companies.

5. The costs of in-fill planting would eventually be recouped from smallholders through the tried and proven in-kind credit scheme that has been used in all previous smallholder oil palm development in PNG. In the successful Bank-supported Oro Smallholder Oil Palm Development Project completed in 2001, the GoPNG provided the credit funds using the OPIC development budget. In this way, repayments from loans made under that development project are being and will be progressively returned to the PNG Treasury. For Component 1 planting, the co-financier PNGSDP would provide the credit through its credit subsidiary and the smallholder loan repayments would be returned to that institution.

6. The in-kind credit system involves close cooperation among the palm oil milling companies, OPIC, and the funding institution, with the palm oil milling companies paying a critical role.

Table A4.1 Project in-fill planting hectares and road reconstruction

Scheme	2008	2009	2010	2011	2012	Total
Hoskins						
<u>New planting hectares (ha)</u>						
Planting (in-fill)	700	700	700	700	700	3,500
<u>Roads (kilometers - km)</u>						
Reconstruction (major access roads)	15	20	20	20	15	90
Reconstruction (minor access roads)	15	20	20	20	15	90
Bialla						
<u>New planting hectares (ha)</u>						
Planting (In-fill)	400	400	400	40	0	1,240
<u>Roads (km)</u>						
Reconstruction (major)	19	26	28	0	0	73
Reconstruction (minor)	6	9	9	0	0	24
Oro						
<u>New planting hectares (ha)</u>						
Planting (in-fill)	800	800	800	800	800	4,000
<u>Roads (km)</u>						
Reconstruction (major)	30	32	32	28	0	122
Reconstruction (minor)	10	12	12	9	0	43
Reconstruction (minor Oro) a/	50	35	20	0	0	105
Total						
<u>New planting ha</u>						
Planting (in-fill)	1,900	1,900	1,900	1,540	1,500	8,740
<u>Roads (km)</u>						
Reconstruction (major)	64	78	80	48	15	285
Reconstruction (minor)	81	76	61	29	15	262
Total	145	154	141	77	30	547

a/ This represents the completion of an earlier AusAID-funded program and would be financed by PNGSDP

7. After identification of smallholder borrowers by OPIC staff, an agreement is signed by the smallholder and the financier. The milling company then supplies and pre-finances the establishment inputs (seedlings, fertilizer, tools) other than labor, and debits the account of the

individual smallholder. Smallholders borrow up to K1,900/ha, representing the first 3 years of investment. OPIC supervises the implementation of the development on the smallholder blocks. When the smallholder debt is incurred, the milling company accounts for and reclaims the expenditures on a monthly basis from the financing entity. The company records the indebtedness of each smallholder for individual loan ledger purposes; the latter would be maintained by the financier. Data on individual smallholders would be passed electronically between the milling company and the financier.

8. The smallholder loans have an 8% interest rate. Loan repayments are a regular 30% deduction from each of the payments received for FFB delivery. Consequently, the number of years needed for repayment of the loan varies according to the volume and price of FFB delivered by the smallholder borrower, while the smallholder's capacity to repay is maintained. As the repayments are received, the milling company passes them back to the loan financier. The palm oil milling companies bear the cost of administering the system because the system is built on their existing systems of having individual accounts for each smallholder supplying FFB to the company. The smallholder block models and cash flow analyses demonstrate the viability of smallholder borrowing.²⁹

9. A replanting program exists in each scheme but would not be included in the project as they are part of the oil palm production system.³⁰ The palm oil milling companies have agreed to continue their support for the replanting program into the project period and beyond by carrying the associated smallholder loans themselves.

Sub-Component 1 (b). Road Reconstruction and Maintenance Arrangements

10. **Upgrading and Restoring Provincial Access Roads.** Currently, the total access road network servicing the three project areas is approximately 2,770 km in length. All are provincial roads. Approximately 23% of them can be classed as more important or major provincial roads whose usage far exceeds that associated with oil palm service and fruit collection traffic. The remaining access network (minor provincial roads) is used for fortnightly or monthly passage of FFB collection trucks (14 ton loads), periodic public and private sector service vehicles, and more frequent daily use by numerous public motor vehicles such as vans or trucks that transport both people and goods (consumption items, garden produce and other cash crops).³¹ Even on these minor provincial roads in the smallholder oil palm access road network, the use by non-oil palm rural households substantially exceeds the use by the households directly involved in oil palm production. The oil palm network provides road access to all rural households in the general area of the network, whether the communities have some households participating in oil palm production or not. There is more intense use of the access road network for non-oil palm purposes in the Village Oil Palm (VOP) areas than in the Land Settlement Schemes (LSS) dominant areas. In the LSS areas, the oil

²⁹ See Credit Component and Financial Analysis: Papua New Guinea Proposed Smallholder Agriculture Development Project, prepared for OPIC by W. Cuddihy, November 2006.

³⁰ Although oil palms will continue to produce for a very long time, the useful life of the palm is determined by the smallholder's ability to reach and cut the fruit bunches with a knife on the end of a pole. This requirement implies that smallholder palms usually must be replaced after approximately 23 years. The existing stand is poisoned by specialized teams (using glyphosate), and the seedling palms are planted in the same area.

³¹ Hard data on the statistics of road usage are not available.

palm is laid out in a grid system that maximizes land usage as oil palm in the serviced area.³² However, even in the latter case, surrounding communities have to rely largely on the oil palm network for access.

11. In VOP areas, access roads usually were constructed on old logging tracks. They usually had a formed and compacted base with table drains, side drains, and periodic culverts and a 200mm gravel surface. Unfortunately, while in some areas river gravel pits have provided gravel of a sustainable size spectrum, many river gravels have had a high proportion of oversize boulder material and have been applied without the required screening or crushing. This treatment has resulted in exceptionally rough surfaces as finer material washes out. Furthermore, the larger boulders prevent maintenance by grading (they are ripped out by the blade and damage the blade). Another serious issue has been inadequate initial drainage or changed drainage conditions, resulting in impassable wet spots. Culvert capacity often has received little consideration, and in many areas culverts have been installed with inadequate or no headwall protection. Generally, the LSS roads were constructed to better specifications than the VOP roads. The major provincial roads in the network have a 6m-wide surface pavement while the lesser roads have a 4m-wide pavement.

12. Despite the maintenance of the smallholder network being the responsibility of the provincial governments, their annual allocations for maintenance of these roads have been minimal or nonexistent. In the absence of provincial government support, the palm oil milling companies have invested their own funds to try to keep the roads open through emergency maintenance operations using their own equipment. In the late 1990s, OPIC was able to obtain a grader for each of the three scheme areas through international aid.³³ Responsibility for the operation of these graders was given to palm oil milling companies under agreements with OPIC under which they operated the graders at their own cost to support the emergency and minimum maintenance activities on the smallholder network. OPIC has also contributed to emergency maintenance whenever any annual surpluses have occurred in annual industry-levy-funded income obtained for this purpose.³⁴ This emergency maintenance input by the palm oil milling companies and OPIC has not been sufficient to avoid significant periods of lack of access to oil palm blocks. The progressive deterioration in the network associated with the lack of a regular road maintenance program has meant that many roads are in need of reconstruction. Economic losses are exacerbated by the heavy wear and tear on the transport fleet used for FFB collection. The cost is passed on to smallholders in the form of higher transport deductions from payments for FFB.

13. The design and implementation of an appropriate maintenance system for the smallholder access road network poses significant challenges. The physical environment is harsh and the lack of access for collection of FFB for relatively short periods causes serious financial and economic losses.

³² In Hoskins, where LSS dominates, the ratio of smallholder oil palm area per km of access road is 24.1, while in Oro, where VOP dominates, the ratio is 13.3.

³³ An EU grant was used to provide two graders in the late 1990s (Hoskins and Biälla), and one was provided under the Bank-supported Oro Smallholder Oil Palm Development Project in 1999. These units are nearing the end of their economically useful life. They were used in the smallholder road network and were managed by the milling companies, which covered their costs of operation.

³⁴ The annual maintenance spending by milling companies is K750,000–K1,250,000 per scheme per year. OPIC's spending is usually K20,000–K50,000 per scheme per year

14. By necessity, oil palm cultivation is located in tropical, high-rainfall areas (2,200–3,800 mm per annum). These areas are typified by very large volumes of surface runoff, flooding, and drainage problems. The majority of the smallholder oil palm area has relatively flat topography. The cost of sealed access roads with comprehensive culvert provision precludes this type of investment in smallholder areas. Gravel roads and culverts can perform well if regularly and properly maintained. Nevertheless, in this environment, there will always be a need for emergency maintenance to keep the roads open when particularly unfavorable weather conditions occur.

15. The fruit bunches of oil palm are harvested by farmers throughout the year. The FFB are carried to the roadside fortnightly for collection by milling company trucks for delivery to the mill. Timely collection is essential to prevent deterioration in the fruit, which should be collected within 48 hours of harvest. Harvesting is best carried out fortnightly. Significant losses occur if the harvesting frequency exceeds four weeks. An inability to collect the FFB at the scheduled two-week interval due to the poor condition of access roads results in serious smallholder income loss. This has negative consequences not only for the local economy but also for the confidence of smallholders in investing in fertilizer as a key production input and in replanting of palms at the end of their productive life. Lack of road maintenance and inaccessibility of roads directly affect the harvesting efficiency on the affected blocks, as harvesting will not occur if a road is closed. While the oil palm smallholders are those most significantly affected by having road access removed, road closure also seriously hinders the overall local economic and social wellbeing of the rural communities that rely on communication via these same roads.

16. These conditions demand a service that is capable of immediately responding to access problems. While this type of service might be tendered under a term contract in a sophisticated contractor environment that exists in more developed countries, such is not possible in the current and foreseeable future circumstances in the project areas. The capacity (financial backing, equipment and management) of the majority of local contractors is limited. While the promise of continuous work as envisaged under the project would provide the opportunity to improve these capacities in the project areas, the level of contracting sophistication that would have to be associated with the tendering and implementation of such a responsive service would not be available.

17. **Project Interventions.** The project would address the problems of the smallholder access road network by supporting road reconstruction, providing a capacity to undertake the required maintenance, and ensuring adequate funding of maintenance during and subsequent to the project. Road reconstruction activities would be undertaken in accordance with the PIM, including the Road Reconstruction Sub-Manual, the EMP and the RPF.

18. **Reconstruction.** The project would provide for reconstruction of those parts of the network that need rebuilding of the entire pavement and drainage structure (550 km), which is equivalent to about 20% of the network, using local contractors. The roads destined for full reconstruction have been selected by OPIC field staff and the transport units of the respective milling companies which have an intimate knowledge of the historical and current problems experienced in the networks. The basis for inclusion has been that a road has deteriorated to a stage where repeated major repairs would be necessary during a year to provide short-lived access at substantial economic costs in production forgone and substantial vehicle wear and tear. These entities have similarly defined priorities for reconstruction in the first year of the project. The PIM recommends a simple

quantitative benefit/cost method that the engineering units can use to assist in prioritizing reconstruction and maintenance investments during the project.

19. With the promise of work opportunities for access road reconstruction of 180 km, 97 km and 270 km in Hoskins, Bialla and Oro, respectively, during the project period and additional opportunities for routine maintenance contracts during and subsequent to the project period, the required contractor capacity is estimated to be available. Tenders would be opened for the annual reconstruction program at each site. Each would be divided into parcels, and bidders would be able to bid on any number of the parcels. Any bidder for more than one parcel must be able to demonstrate an ability (based on equipment, financial status and work history) to complete the works within the specified time without recourse to subcontracting for more than 20% of the total works. This criterion would encourage the participation of local contractors as well as give larger contractors the opportunity to establish capacity in the project areas. Road specifications have been developed that are appropriate for local conditions. The pavement width for the minor provincial roads is 4 m and for the major roads is 6 m.³⁵ The road program is expected to extend over the five years of the project.

20. **Maintenance.** Maintenance would be managed under a dual system using both local contractors and direct appointment of the engineering units of the palm oil milling companies.

21. **Regular routine maintenance.** Regular routine maintenance contracts (using grader, water trucks, roller, and manual labor for culvert and drain cleaning) would be tendered on a “term and distance” basis (e.g., 12 months maintenance for a given length of road) in parcels that suit the task and the likely contractor capacities. An individual contractor could apply for more than one section of road maintenance if its capacity to undertake the volume of work involved is demonstrated, but each contract and performance under that contract would be assessed separately. Separate assessments would ensure that if non-performance were an issue on any contract, it could be dealt with separately, thereby limiting damage to the overall program.

22. This routine maintenance would be designed to maintain the pavement surface in usable condition. When circumstances result in damage to the road and require more than the contracted and specified routine maintenance, the contract would provide for other entities to repair the damage so that the routine maintenance could continue within the term contract. However, where planned re-graveling of the distance being contracted is required (likely at intervals of 5–6 years), this specification would be added to the routine maintenance contract in that year. Roads to be included in the reconstruction program would not be subject to this type of routine maintenance in the early years of the project. They would be brought into the routine maintenance program after construction.

³⁵ Road specifications are the minimum necessary to allow access in all but extraordinary circumstances with a reasonable level of maintenance attention. The minor access roads have two layers of compacted gravel on a formed subbase, with culverts and drainage as required by the terrain and water flows. The proposed specification for the base gravel layer is 125mm depth with screening to remove gravel larger than 50% of the layer thickness; the upper maintenance layer would be 75mm with maximum gravel size of 20mm. The major access roads would have a deeper base layer at 150mm. Recent contract costs for 200mm thickness gravel roads have been used to establish per km costs. The minor road reconstruction ranges from US\$24,000 to US\$30,000 plus GST per km, depending on distance of gravel cartage; the major roads would cost from US\$32,000 to US\$46,000. These levels of expenditure and the associated maintenance allow a healthy economic rate of return for the SADP of 16.7%.

23. **Non-routine maintenance.** Non-routine maintenance would not be suitable for tendering in local construction contracts. If FFB collection trucks are to function with minimum disruption, emergency attention is required within days of serious damage that frequently occurs in the network. Damage can be caused by exceptional rainfall and consequent flooding, subsidence, fallen trees or volcanic activity.

24. Prompt action by a responsive and well-equipped entity is essential. The palm oil milling companies, which have been undertaking such maintenance to the maximum that their equipment and funding resources allow, are the only entities currently able to perform this function. Acceptance of this responsibility may require the palm oil milling companies to procure additional equipment (particularly bulldozers, excavators and trucks). The palm oil milling companies at Oro and Hoskins would be willing to do this using their own funding resources provided a system is in place to enable them to recover the costs of providing the non-routine maintenance services. The palm oil milling companies would be directly appointed to undertake this work, using their own equipment, at annually agreed unit rates under “Certificates of Inexpediency.” They would perform this work under annual contracts at unit rates set by OPID units at each scheme.³⁶ The palm oil milling companies would be reimbursed from the fund established to cover maintenance costs. The company units would undertake any emergency reconstruction required on the roads included in the routine maintenance contracts and generally would deal with any repairs not suitable for inclusion in those contracts. The company units also would perform the spot maintenance on the roads that are destined for reconstruction in the program to keep these roads functioning as much as possible. To the extent that operations can be anticipated, the operations of the equipment would be programmed monthly by equipment management and OPID.³⁷

25. Bialla’s circumstances require a variation on the maintenance arrangements used for the other two schemes. Because of Bialla’s relative isolation and lack of work opportunities for contractors other than in the oil palm sector, it is very difficult to attract contractors to the area. The milling company has done as much as it can to maintain the smallholder road network. It is doing so at its own cost using its own equipment and the grader provided through OPIC in 1997. It depends on smallholders for 48% of its FFB supply, a level of dependence higher than in the other two schemes. However, Bialla’s maintenance input is substantially short of requirements. In addition, Bialla is located in a high-rainfall coastal strip that has a relatively short distance to the mountain range on its southern edge. The water volumes in permanent and temporary watercourses and flow lines are subject to high fluctuations that substantially damage the network. Such damage requires a high level of emergency maintenance.

26. The road reconstruction program (97 km) at Bialla assumes that sufficient contractor capacity would be available to compete for tendered work. This is the same system used in the other two schemes. It assumes that a continuous program of road reconstruction over 3–5 years would be sufficient to attract contractors. As in the other two schemes, use of tendered contracts for routine maintenance also would be maximized. However, for non-routine maintenance, the project would provide equipment at Bialla (close to US\$1.6 million excluding GST).

³⁶ OPID unit is a small engineering unit attached to OPIC in each scheme. It is linked to the DOW via secondment of an engineer from DOW to each of the three schemes and through the head of the Project Road Unit, who would liaise regularly with the DOW’s Head of Field Services.

³⁷ The non-routine maintenance would cover the obvious emergency treatments, spot repairs and repairs to short isolated sections of road length, including re-gravelling where necessary, and culvert replacement.

27. The maintenance equipment would be owned by GoPNG through OPIC. Its management and operation would respond to programs agreed with end-users who would pay for road maintenance through levies or contributions into the road maintenance fund for the Bialla scheme. Even though the IDA Credit would not fund the maintenance operations, procurement rules oblige that the equipment's management would be open to tender. The successful bidder would have to demonstrate the capacity to operate and maintain the equipment to a high standard and be responsive to the needs of the program to keep the network operational. As with Hoskins and Oro, the work program would be planned. The maintenance equipment contractor/manager would be paid monthly on the basis of work completed at the annually stipulated unit rates in the tender/contract, plus margin for management included in the contract in response to the management tender. The milling company would bid for the management contract which would be tendered annually with demanding performance criteria.³⁸

28. **Road Maintenance Funding.** Effective maintenance of the smallholder access road network cannot be attained unless there is guaranteed funding of the maintenance program. This funding would be provided in the form of an OPIC-sponsored RMTF for each project area.³⁹ End-users of the network in each project area would contribute to this fund. The proposal is for 25% of the required funds for annual maintenance to be contributed by smallholder oil palm growers, 25% by the palm oil milling companies and 50% by the provincial governments, which represent the general population using and benefiting from the access roads.⁴⁰ A RMTF Board would be formed in each scheme to oversee the RMTF account. The Board would comprise representatives of the contributors—provincial government, palm oil milling companies, and smallholder growers through their association representative—and OPIC. OPIC would act as the secretariat for the Board. The providers of maintenance services would be paid from the RMTF, with withdrawals made under the signatures of OPIC and another representative of the Board. The RMTF would be held in a commercial bank and would earn interest. Bialla's government equipment would be managed under contract. The replacement cost provision would be placed in a sub-account to attract higher interest but would be accessible only by the same signatories as the primary RMTF account.

29. The annual level of contribution would be sufficient to cover the costs of anticipated routine and non-routine maintenance carried out by contractors at commercial rates, and the costs of the non-routine maintenance undertaken by the palm oil milling companies at rates that enable full cost recovery. The required average annual funding for maintenance programs is anticipated to be approximately K5.5 million at Hoskins, K2.9 million at Bialla, and K4.1 million in Oro. These

³⁸ The stipulated unit rates in the tender would be set to cover all estimated operational, repairs and maintenance, and supervision costs. In effect, the bidder that asks for the least margin on the stipulated unit rates in the tender would win, provided that bidder has demonstrated its capacity to operate and service the plant efficiently. The rates paid would not include depreciation/replacement costs. This portion of costs would be covered by the contributions to the road maintenance fund for the Bialla scheme but would be held in an interest-bearing sub-account of the fund to replace the Government-owned equipment. Access to these funds would be only by the signatories authorized to draw on the fund to reimburse maintenance costs to service providers. The Project Road Unit would prepare the contract to ensure appropriate care and maintenance of the plant.

³⁹ Although the general organization and operation of the RMTF have been drafted and appear in the PIM, SADP provides for a consultancy at the start of the project to establish the legalities of the RMTF instrument and of the measures necessary to ensure accountability and transparency. The RMTF is expected to be in operation from July 2008, to enable the implementation of the proposed maintenance program and its funding from that date. Also see Annex 7, which stipulates some considerations for the RMTF design.

⁴⁰ In accordance with GoPNG's functional responsibilities, the provincial governments are responsible to maintain provincial roads, which include the smallholder oil palm road network.

amounts imply contributions by smallholders at the rate of approximately K4 per ton of FFB delivered in Hoskins and Bialla, and K5.5 per ton of FFB delivered in Oro in the early years of the project. Some reduction would occur in later years as tonnage delivered increases and the networks reach a better condition.⁴¹

30. While most smallholders would want to minimize levies as deductions from their payments, it is anticipated that OPIC would be able to convince growers of the very favorable financial return in additional FFB delivered when the impediment of periodic impassable roads is removed. Financial models indicate that smallholder levies of the order of K4–K6 per ton of delivered FFB would affect the time necessary to recover the development loans for in-fill that would be provided through the project, and the recovery time for the replanting loans carried by the palm oil milling companies. However, the financing parties would be willing to accept a longer repayment period in view of the substantial financial and/or economic benefits to all stakeholders in having effective access road maintenance. Smallholder cash flow models indicate that levies of this order should be sustainable would not have an unreasonable impact on the net cash return from FFB deliveries. The impact would be further reduced if blocks were completely harvested and the use of recommended production inputs result in higher and easily attainable yields per ha. Despite the apparent benefits, an initial negative reaction to any levy from a significant proportion of growers must be anticipated. Thus, OPIC, with the support of the palm oil milling companies, would undertake a carefully planned promotion prior to introducing the maintenance levy system. The project provides for a consultancy to design and process the details of the RMTF instrument. The system and its trust fund are expected to be operational by mid-2008.

31. Palm oil milling companies would be willing to contribute at the stipulated 25% rate. The annual contribution by provincial governments in WNB and Oro at 50% of requirements would amount to approximately K4.2 million and K2.1 million, respectively. Grower and parallel milling company contributions to the RMTFs are linked to progressive FFB deliveries through the year. Payments would not be available at the start of the year. Consequently, seed capital at 25% of the annual requirement in each fund would provide a funding cushion that should prevent any disruption of the maintenance program caused by cash flow constraints. The total seed capital for the three funds of approximately K3.1 million would be provided by PNGSDP.

32. **Special Package Oro.** The 550 km of road reconstruction includes a parcel of 105 km that would be funded by PNGSDP. This program was to be completed under an AusAID-funded PNG Incentive Fund from 2002, but this project was aborted with the 105 km outstanding. There are 991 smallholders on 1,982 ha who are producing FFB in Oro but do not have adequate access. Projected costs of this package are US\$3.0 million.

33. **Road Program Institutional Arrangements.** The project would provide an engineering consultant to oversee the road engineering and equipment procurement aspects of the program: the Project Roads Unit. He would be attached to OPIC and act as support to the OPID units at each scheme. Since the largest part of the road work would be in WNB, the engineer would be located in Kimbe. However, the terms of reference of the engineer would require regular contact with the Field Operations Branch of the DOW in Port Moresby.

⁴¹ The maintenance costs in each scheme are derived from actual unit costs and task requirements but also make a realistic assessment of end-users' capacity to pay.

34. At each of the schemes, there would be an OPID unit attached to the OPIC office headed by an engineer seconded from DOW and including a road supervisor, part-time surveyor, foremen, tally clerks and secretary. Land officers attached to local OPIC offices would address any land issues associated with road programs. OPIC locally would cover all costs of the OPID unit and “top-up” the salary of the seconded engineer. For the period of the project, these OPID costs would be covered by the development budget on a declining percentage over time. Subsequent to the project, the OPID unit would support the road maintenance arrangements. However, these could be covered by OPIC since it would have additional levy income derived from higher FFB production by smallholders. The OPID engineer would report to the General Secretary of OPIC concerning administrative matters and would receive technical guidance from the Project Roads Unit engineer who would liaise with DOW on technical and procedural issues.

35. The consulting engineer would be supported by three junior engineers, two in WNB and the other in Oro. This engineering support team would be responsible for providing guidance on all procurement of works, equipment and equipment management and for ensuring that they accord with the objectives of the road program. For road works contracts, the Bank’s standard bidding document—Procurement of Works, Smaller Contracts—would be used, suitably adjusted to local conditions, and procurement of equipment would adhere to applicable Bank procurement guidelines. The engineering support team would approve tender documents before their release and, in the initial year at least, would supervise the contract award procedures to ensure quality control. The OPID units would provide local supervising capacity and draft the tender documents under the guidance of the engineering support team, which would give final project approval of tenders. OPID units would prepare operational plans for both reconstruction and maintenance, in conjunction with other stakeholders, who would be represented in the LPC and in the RMTF Board for each scheme.

36. In view of the time required to prepare and process procurement documents, the position of the consulting engineer would be one of the first positions filled after Credit effectiveness in late 2007. Filling this position would ensure that the key project road reconstruction and maintenance activities requiring procurement assistance is undertaken timely and would permit substantial implementation of the road program in 2008.

Sub-Component 1 (c). Extension and Services

37. **Extension and Yield Improvement.** Sub-optimal harvesting practices and the low use of fertilizer have been identified as major factors constraining yields in smallholder blocks. The 2005 average delivered yield was 14.8 tons/ha for smallholders and over 23 tons/ha for the milling companies’ estates. The project would provide a consultant extension specialist experienced in the design and management of extension programs that respond to production constraints. The consultant would be informed on grower attitudes and goals and would be able to demonstrate to them how enhanced productivity measures respond to their defined goals and needs. The consultant would use existing socio-economic studies undertaken by PNGOPRA and the project’s socio-economic assessment as a basis for this work. The consultant would guide the extension staff in general in agreed programs, but also would give additional training to key persons in OPIC in each scheme so that the approach would be sustained after project completion. The consultant would be recruited for two years in PNG followed by a three-year period of two visits (each of one month) per year.

38. Based on conservative estimates, the average smallholder's yield increase from project extension activities combined with an increase in harvesting efficiency because of the reconstruction and sustainable maintenance of the provincial access roads is estimated at 2.7 tons/ha on existing smallholder oil palm production across the three schemes. The resulting average increase in FFB production would be on the order of 54,000, 27,000, and 24,500 tons annually for the Hoskins, Bialla, and Oro schemes, respectively. At the present average farmgate price, this total annual incremental production of 105,500 tons would represent an additional income of approximately K39 million for growers.

39. **Service Capacities.** Some recruitment would be necessary to increase OPIC field staff to levels that can manage the in-fill, replanting, and extension programs. As recommended by the SA, OPIC would appoint, train or recruit staff for land-related issues (up to two per scheme), gender issues, general welfare and HIV/AIDS. A relatively small increase in infrastructure and equipment support also is required. At the end of the project, current and anticipated staffing and other recurrent costs would be covered by the OPIC smallholder levy with parallel contributions from the palm oil milling companies. During the project, the incremental items would be covered by the development budget on a sliding scale, beginning with full coverage in the first three project years ending with OPIC covering 50% costs in the last two project years.

40. The palm oil milling companies have ample processing capacity to absorb the current and incremental FFB production generated by the in-fill, replanting, and anticipated overall productivity increase from the existing smallholder areas. The available seedling supply presents no constraint to the total replanting and planting requirements, and fertilizer is procured by the palm oil milling companies.

Component 2. Local Governance and Community Participation

A. Component Objective

41. The objective of this pilot component would be to develop and demonstrate sustainable mechanisms for community participation in local development through the provision of grants to community groups in the project areas and promoting participatory planning and local accountability at local government and community level. The implementation of this component would be phased and the approach would promote self-reliant local development through: (a) community mobilization, facilitated by local facilitators; (b) identification and prioritization of activities that would provide suitable solutions to local development constraints, through transparent processes at ward or community level; (c) participatory planning and budgeting at LLG level; (d) provision of assured funding, with transparent conditions to ensure accountability and effective use of funds by recipient communities; (e) design and implementation of planned activities by the communities themselves, with support from district and LLGs, local CBOs, NGOs and service providers; and (f) capacity-development of CBOs, ward development committees, LLGs and province/district administrations. Implementation of Component 2 would be consistent with the PIM, including the Community Development Sub-Manual, the Financial Management Handbook, the EMP and the RPF.

42. Component 2 would complement Component 1 by covering all oil-palm and non-oil palm communities in the project areas. It would extend support to these communities by enhancing the

enabling environment for livelihoods opportunities as well as developing the capacity of local institutions to deliver services and promote local accountability.

B. Strategies and Approaches

43. **Working with the existing government structures.** The component would not build parallel structures but would focus on building the capacity of existing local institutions to improve service delivery. The approach is one of realigning incentives to improve accountability and reinforce bottom-up governance.

44. **Social and Gender Inclusiveness and Participation.** The component would provide a vehicle to strengthen community voice at the local level. Participation of women would be mainstreamed in all the processes supporting local investment, and IEC (Information, Education and Communication) would use specific channels, like the “Mama Lus Fruit” program to reach women.

45. Training and capacity building would be provided to participating communities to ensure the inclusive representation of women. Representatives of community women must endorse all sub-project proposals as part of the sub-project appraisal process. Strong women’s representation would be required on all project committees and decision-making bodies.

46. The component would provide a space for non-oil palm communities, or people not benefiting from the oil palm economy, and marginalized groups to participate in the local development processes.

47. **Accountability.** The component would seek to stimulate the demand side of local governance and, in particular, to institutionalize accountability into existing systems based on a set of incentives associated with the provision of grants. Regular open meetings, public disclosure and regular reporting would be at the core of the local participatory process and would be conditions of grant release. In addition, the component would support capacity building at several levels in order to institutionalize and absorb the message of accountability and the means by which it is implemented. Increased accountability is expected to have a gradual impact on: (a) relationships between LLGs and provinces and the citizens that elect them, on the one hand, and higher tiers of governments, on the other; and on (b) standard financial management procedures, reporting and audit that constitute the core of project monitoring which would have in-built accountability mechanisms.

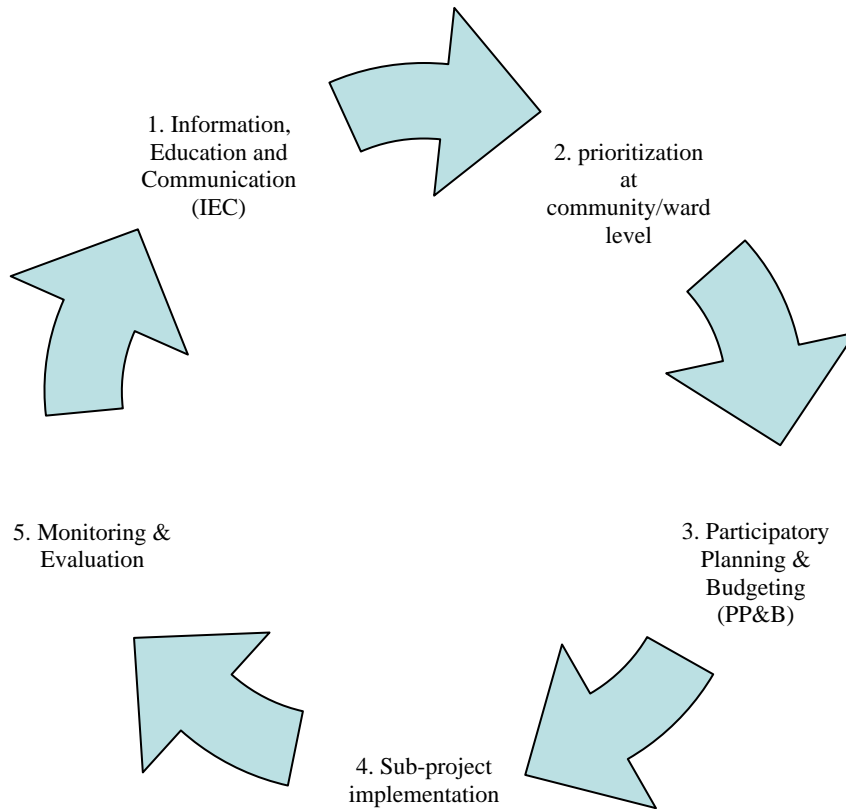
48. **Public disclosure and grievances.** Specific requirements for public disclosure would be included in all planning, budgeting and implementation processes. Particular requirements are open meetings, LLG/district notice boards and sub-project signboards. In addition, citizens would have avenues to seek redress in case safeguards built in to ensure accountability fail. These avenues include open ward or LLG meetings and written complaints.

C. Planning, Budgeting, and Local Investment Cycle

49. The sub-project annual cycle is summarized in Figure A4.2. Grants to LLGs and communities are predictable (i.e., the amount and timing is known and communities can count on receiving the allocated amount) and would be released based on performance of the previous year.

50. **IEC.** Information about the level of funding, rules and procedures of the participatory planning and budgeting exercise and the calendar of events would be communicated to the communities through community facilitators linked and supported by networks of local institutions. In addition, LLGs and districts would receive training as a condition to participate in the component (see section D, Capacity building).

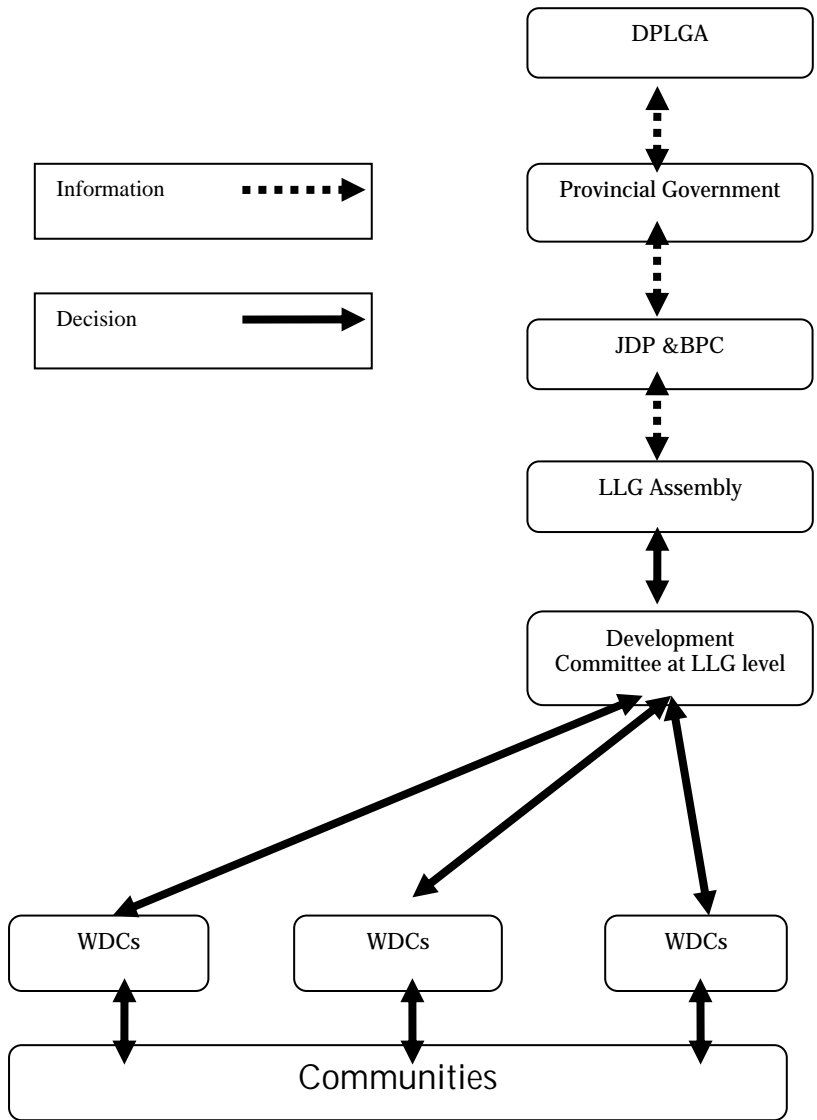
Figure A4.2 Sub-project Annual Cycle



51. **Planning and budgeting process.** Annual planning and budgeting would stimulate the bottom-up processes which are envisaged in the existing local governance system but are inactive due to lack of funds and incentives. Each year, communities at ward level assisted by the partnering service provider organizations would come together and debate vision and priorities. These priorities would be further debated by a development committee at LLG level (which would include the existing ward councilors and other community representatives selected for that purpose, with minimum quotas for women). Participatory plans and budgets would be then be agreed upon and voted.

52. This cycle would match the regular LLG budget cycle so that the participatory budget (financed by the project) is endorsed by the LLG assembly together with the overall LLG budget. It would also be passed for information to the Joint District Planning and Budgeting Priorities Committee and to the provincial administration. Figure A4.3 illustrates the Participatory Planning and Participatory Budgeting processes:

Figure 4 A.3: Participatory Planning and Participatory Budgeting Processes



53. **Sub-project eligibility.** There would not be any specific menu for the sub-projects to be funded under the grants. However, a negative list of sub-projects and expenditures would be established in the PIM and would include as a minimum:

- private or individual activities and goods, unless they are of a “public good” nature or are expected to yield considerable benefits to the community as a whole;
- salaries, wages or allowances of staff or elected representatives;
- political and religious activities; and
- activities that may have an adverse social or environmental impact, as described in the ESMF.

54. For example, eligible sub-projects would include (but not limited to) activities such as:

- small economic infrastructure and enabling environment for income-generating activities (support for infrastructure that directly promotes income-earning opportunities such as markets, access roads, high-frequency radio facilities, rice mills);

- common resources (management of common forests or fishing grounds: forest nurseries, protection of fish breeding sites, insect sites);
- training for economic livelihood opportunities (horticulture, handicrafts, ecotourism, business management);
- small-scale infrastructure (road maintenance, construction of culverts)⁴²;
- health (building or rehabilitation and equipping aid posts, housing or transport for Community Health Workers, HIV/AIDS awareness);
- education (rehabilitation or repair of school buildings, new teachers' housing or repair);
- water/sanitation projects (new or rehabilitated water supply via rainwater tanks, pipes, wells, new or rehabilitated latrines);
- social facilities (women's or youth centers, facilities for disabled); and
- communication (radio high-frequency transceivers, batteries, solar panels).

55. **Transfer of grants.** Once the budget is endorsed by the LLG assembly, the annual development grant is transferred to a LCT account opened by the LCT for each LLG. Transfers to the accounts would be made quarterly, based on the projections by the LCT regarding the sub-projects to be funded. After completion of phase 1 of the component, GoPNG and IDA would assess whether funds could be transferred to an LLG account managed directly by the District Treasury.

56. **Sub-project preparation, appraisal and approval.** After the yearly budget is approved and endorsed by the LLG assembly, each sub-project would be prepared and technically appraised. The sub-project proposal would include technical design, detailed budget, expected schedule of payments, community contribution, environmental and social screening and possible mitigations (following a simple format included in the PIM) and would be appraised by LLGs and/or district extension staff according to a set of predefined criteria. These would include:

- compliance with environmental and social safeguards;
- community contribution, in-kind or cash;
- review of unit costs, as available in the region in which the activities would be implemented;
- arrangements for sustainability of the activities; and
- evidence of existing budget for recurrent costs at LLG, provincial or national government level.

57. Once the appraisal process is completed and the sub-project proposal is modified as required, it would receive a final technical approval by the LLG Manager.

58. **Sub-project Implementation, Monitoring & Evaluation.** A community SIT would be set up for each sub-project. The SIT would be responsible for ensuring community participation in all aspects of the project cycle. At least two members of the Ward Development Committee (WDC) would be members of the SIT (these may include the Ward Councillor, the Ward Treasurer, the

⁴² Most communities have a degree of access to the oil palm collection road network. Maintenance of this network would be provided for under the project. However, some communities are likely to be relatively distant from the network and in such instances improved access could be expected to be articulated as a priority need. The current network has been enabled by the economic development of smallholder oil palm and is a major GoPNG investment. The addition of further roads to specifications similar to the current network could not expect to be supported by GoPNG for economic reasons, but there may be opportunities for lesser investment in access that would facilitate the transport of goods and persons to the established network, using Public Motor Vehicle facilities. Adequate access can be expected always to be a priority; it has always been assumed that access opportunities have been an important factor in communities wanting to participate in oil palm production.

WDC Secretary or any other associate members of the WDC). At least three other members would be elected by the community or the sector benefiting directly from the sub-project. Of the total members, community beneficiaries should constitute the majority and at least half the total would be women. Selection of SIT members would be made at an open meeting of the beneficiary community or sector. SITs would be responsible for all procurement under the sub-project and for all payments (for which two signatures would be required) under conditions further described in the PIM. Monitoring and evaluation are described in Section F.

59. **Community Fiduciary Management.** Funds would be transferred by the LCT, upon request from the LLGs, to an account opened for this purpose by the SIT. All procurement under the sub-projects would be carried out by the SITs, assisted by the partner service provider organizations and the LCT, and would follow simple community procurement guidelines described in the PIM. The SIT would receive funds from the LCT upon satisfactory completion of sub-project appraisal and signature of a sub-project agreement between the SIT, the LLG and the LCT. Payments would be made, upon satisfactory performance, directly to contractors and service providers by the SIT.

60. **Reporting.** The Management Agency hired by the government to support in the implementation of the component would report to OPIC and PSC on a bi-annual basis on disbursements, sub-project implementation, environmental and social compliance, and public disclosure and information requirements. These reports would also be forwarded to DPLGA and to the Steering Committee of the PPII.

61. **Financial Reviews.** Annual financial reviews of the entire LLG budgets would be carried out toward the end of each fiscal year. These reviews would be part of the capacity building provided by the component to support the LLGs.

D. Capacity Building

62. Component 2 would provide support to all the stakeholders to be able to plan, budget, implement, monitor and evaluate LLG development grants. The component as a whole aims at identifying and addressing the multiple constraints to “bottom-up” governance and local service delivery. Specific capacity-building activities would be coordinated by the Management Agency and implemented through local service providers, and would focus on:

- **IEC.** Information would be provided to the LLG and province elected representatives, LLG and district staff, communities and civil society on project rules and procedures, compliance requirements, roles and responsibilities and conditions of access to the project funds. A network of community facilitators, coordinated by local NGOs, churches or CBOs, would be trained and supported through the project and would relay information to communities about levels of funding and participation in planning and budgeting processes. In addition, IEC activities would be implemented through selected service providers: local radio and media, NGOs, government extension agents such as OPIC, associations such as the Popondetta Oil Palm Growers Association and the “Mama Lus Fruit”, etc. A consultant recruited at the beginning of implementation by the Management Agency would design a communication strategy and material. Workshops would also be held, including a yearly project launch workshop in each district, to ensure information dissemination and project follow up by all the stakeholders.
- **Trainings for LLGs, districts and sub-project implementation committees.** This training would aim at developing the skills necessary to support the processes put in motion by the

component. A consultant would be recruited by the Management Agency at the beginning of project implementation to develop training material. The training sessions would be dispensed to all eligible LLGs and would be mandatory to access the grants. Refresher training modules would also be proposed annually to identify “under-performing” LLGs to allow them to remain eligible and improve their performance.

- **Capital support for participating LLG and Districts.** The component would provide capital support to improve the facilities of participating LLGs including basic facilities to hold public meetings, construction of public office boards, etc.
- **Peer learning and review.** These activities would support learning across participating communities and LLGs through regular meetings, exchange visits and performance review. It would be linked with other programs, such as the PPII funded by AusAID, and would gradually involve other LLGs to participate in phase 2 as well as higher levels of government and institutions at provincial and national level.
- **Exchange Visits.** These visits would be organized every year to allow LLGs and communities to exchange experience with other participating LLGs and communities in the other province.
- **Study Tour.** One study tour would be organized in year 3 of the project and would provide an opportunity for project staff and government officials actively involved in Component 2 to visit a CDD and local governance program in the region and be exposed to international experience in this area, in particular regarding the challenges of scaling-up the project into a country-wide program.

E. Implementation Phases and Development Grants

63. **Phasing.** The pilot component would be implemented in two phases. During the first two years (phase 1), the activities would concentrate on five LLGs and would aim at incrementally engaging these LLGs and the district and provincial administration supporting them, developing their capacity and gaining experience from new and innovative mechanisms for community participation at the local level. These five LLGs are Kokoda LLG in Ijivatari district, Oro bay LLG and Popondetta urban LLG in Sohe district; Bialla LLG and Kimbe urban LLG in Talasea district.

64. The five LLGs to participate in phase 1 were selected during project preparation according to the following criteria: (a) in each province, one urban LLG was included, given the importance of these centers in terms of services for their own as well as neighboring communities; (b) in the Ijivatari and Sohe districts (Oro province), the presence of both oil palm and non-oil palm communities in Oro LLG and in Kokoda LLG was the determinant factor; (c) in Talasea district (West New Britain province) where virtually all LLGs include a majority of oil palm communities, the criteria was the lack of or relative inaccessibility to services. The current high immigration rate to Bialla LLG from other parts of PNG (and the ensuing strain put on local service delivery) was an additional reason to include it as a priority LLG for the component.

65. After the first two years of Phase 1, an external evaluation of the pilot component would be conducted. The results of this evaluation (and in particular the progress on indicators, a review of the mechanisms and revision of the PIM, and an assessment of whether or not LLG Development grants can be transferred to accounts managed directly by the District treasuries) would determine the conditions in which Phase 2 would be implemented, including the expansion to all fifteen LLGs in the three project districts in year three.

66. **Development Grants.** Component 2 would provide grants to community groups. The allocations per LLG have been calculated to allow implementation of four sub-projects per LLG in the first year (K80,000 calculated on the basis of an expected average of K20,000 per sub-project); five sub-projects in the second year (K100,000) and six in the subsequent years (K120,000). This amount is inferior to the LLG and Village support grants foreseen in the Organic Law (calculated on the basis of K20 per head) which have never been effectively transferred to LLGs and are not effectively linked to the functions to be carried out by LLGs and the associated fiscal transfer requirements. This component does not intend to provide guidance or advocate for a particular level of funding, but rather concentrates on the interface between communities and LLGs and the transparent and participatory processes which are necessary to ensure that development funds are not misspent at local level, whatever their future level would be when the Organic Law is revised.

67. Transfers to participating LLGs would be subject to the adoption by all stakeholders (in particular LLGs, wards, communities, services providers and district authorities) of a local governance framework based on transparency and upwards and downwards accountability. Predefined criteria would have to be met by LLGs willing to participate in the project. LLGs would be required to sign of a Memorandum of Understanding (MOU) before participating in the project. Participating LLGs would receive training prior to engaging in participatory planning and budgeting. Given their important role in supporting the LLGs, districts and provinces would also be invited to participate in the component through a separate MOU.

68. In addition to the above eligibility requirements, LLGs would be required to hold open public meetings and regularly disclose LLG-level and project-specific information. The risks of elite capture and the potential misuse or inappropriate use of resources would be addressed through requirements for participatory local planning, open budgeting, approval, financial review and environmental and social management processes, complemented by central oversight and described in the PIM.

F. Monitoring and Evaluation of Outcomes and Results

69. For Component 2, M&E is part of the core activities of the component. Annex 3 outlines the indicators to measure the achievement of the project's development objective and components' intermediate outcomes, and the baseline arrangements. In addition, a consultant would be hired within the first three months of the project to design an M&E system with additional indicators specific to Component 2, and design the surveys that would be used to collect baseline data on some indicators. The M&E system would be results-oriented and conceived as a management and learning tool to be used by GoPNG, project staff and participating LLGs and communities. The M&E system would be oriented towards:

- (a) at the component level: monitoring due diligence, focusing on component performance and compliance with the PIM, and the achievement of development objectives and outcomes. The Management Agency would present reports to the DPLGA Steering Committee working group, to the SADP Steering Committee and IDA, bi-annually and on the occasion of annual workshops;
- (b) participatory M&E, by which communities would track the progress of their sub-projects with respect to the desired outcomes and results they would have themselves identified. Progress on indicators would be shared and communicated through open meetings and signboards to reinforce social accountability and local governance; and

- (c) monitoring impact of the component on accountability and local governance, through a set of separate indicators that would inform GoPNG (in particular DPLGA) and IDA and allow a greater policy dialogue among development partners. Data collected would be used by GoPNG: (i) to evaluate the extent to which the approach has the desired outcome and is replicable; and (ii) to evaluate the extent to which the component activities empower marginalized groups (including women and youth). This would be used to document lessons learned and engage government departments and donors in policy dialogue and possible replication of the participatory mechanisms beyond the life of the project.

70. In addition, an external evaluation would be conducted at the end of year 2 to assess the component's performance, provide recommendations on participation processes, revise the PIM and assess the conditions in which the expansion to all LLGs (phase 2) can be carried out. Another evaluation would be conducted at the end of year 4, with a focus on the impact of the component on local governance and accountability, with a view to informing further policy dialogue among GoPNG and development partners.

Component 3: Project Management and Institutional Support

71. OPIC would have overall responsibility for project management, coordination and performance of the project components. Component 1 implementation would be undertaken through OPIC and its field offices with the support of the palm oil milling companies and PNGOPRA. Component 2 implementation would be managed by a Management Agency contracted by OPIC: (a) to set up LCTs at the provincial level; (b) to select and contract consultants and service providers to carry out all capacity building activities; (c) to carry out M&E activities; and (d) to transfer the grants to an account managed by the LCT (one account per LLG) and transfer sub-project funds to SIT accounts upon request from the LLG and in the conditions described in the PIM. Component 3 would aim at strengthening OPIC capacity in improving smallholder productivity through the provision of technical assistance and the establishment of an M&E system. It would also strengthen OPIC and the institutions involved in assisting rural communities to define their priority needs, and the capacity of service providers to respond to these needs. OPIC would provide support to and coordinate with existing HIV/AIDS awareness and prevention campaigns in the project area. Environmental monitoring would also be supported in close coordination with the DEC. Under Component 3 the smallholder sector would be strengthened through the provision of support to growers (equipment, training), and to PNGOPRA (agro-socio-economic research, stream monitoring – arthropod indicator surveys). OPIC would also manage and coordinate the undertaking of the FFB Price Formula Review, the studies for designing the Road Maintenance Trust Funds and other project studies, and the overseas master courses. Implementation arrangements are presented in more detail in Annex 6.

Annex 5: Project Costs
PAPUA NEW GUINEA: Smallholder Agriculture Development Project

Project Cost By Component	Local (US\$ million)	Foreign (US\$ million)	Total (US\$ million)
1. Smallholder Productivity Enhancement	45.6	9.9	55.5
2. Local Governance and Community Participation	3.0	0.1	3.1
3. Project Management and Institutional Support	2.3	3.9	6.2
Total Baseline Cost	50.9	13.9	64.8
Physical Contingencies	1.5	0.3	1.8
Price Contingencies	1.8	0.4	2.2
Total Project Costs¹	54.2	14.6	68.8
Interest during construction			
Front-end Fee			
Total Financing Required	54.2	14.6	68.8

¹ Identifiable taxes and duties are US\$5.3 million, and the total project cost, net of taxes, is US\$63.5 million. The share of project cost net of taxes is 92%.

Annex 6: Implementation Arrangements

PAPUA NEW GUINEA: Smallholder Agriculture Development Project

1. **National project oversight.** Project general oversight and guidance would be provided by a Project Steering Committee (PSC) chaired by the Secretary of the Department of National Planning and Monitoring (DNPM), or the Secretary's nominated representative, and comprising representatives from various government departments and agencies, which would include, but not be limited to the Department of Treasury, the Department of Agriculture and Livestock, the Department of Environment and Conservation, the Department of Works, the Department of Local Government and Provincial Affairs, the Department of Community Development, Provincial Governments and PNGSDP. The role of the PSC would be to provide guidance on policy matters and quality control for annual work programs and budgets, and to facilitate critical decisions for the implementation of various components. The PSC would meet twice a year, and/or at the request of the PSC Chairman.

2. **Project coordination at national level.** The project would be under the responsibility of the Department of National Planning and Monitoring of the Ministry of National Planning and Rural Development. OPIC, with its head office in Port Moresby, would take overall responsibility for project management, coordination and performance of the project components. OPIC would in particular:

- monitor and ensure timely implementation, according to the Project Implementation Manual, including three sub-manuals (Smallholder Oil Palm In-fill Planting Sub-Manual, Road Reconstruction Sub-Manual, and Community Development Sub-Manual), the Financial Management Handbook, the Environmental Management Plan (EMP), and the Resettlement Policy Framework (RPF);
- prepare the annual work plans and budgets;
- operate the Designated Account;
- prepare withdrawal applications for disbursement and liaise with IDA;
- maintain consolidated Project accounts, and arrange for annual audits;
- monitor and evaluate project progress; and
- prepare bi-annual progress reports, including information on financial execution and activity progress (results indicators) as well as on procurement progress in all components of the project for the current semester and cumulative for the project life.

3. OPIC management capacity would be enhanced before the start of the project through (a) training the financial controller and project accountants in the use of improved accounting systems; (b) increasing the OPIC finance/procurement staff in the head office (Port Moresby) and recruiting a procurement specialist for the first two years of the project; (c) updating the current chart of accounts; (d) putting into place internal audit systems; and (e) training the financial controller and one staff each in Port Moresby, Oro and WNB in procurement.

Component 1: Implementation Arrangements

4. Implementation of Component 1 would be undertaken by the OPIC head office in Port Moresby and implemented by their field officers in the project areas with the support of the palm oil milling companies and PNGOPRA. OPIC was established in 1992 and effectively coordinates the

operations of the five existing smallholder oil palm schemes through field offices in each scheme. OPIC has a manager, financial controller, and general support staff in its head office and the field offices. OPIC operates from funding provided by levies from smallholders and palm oil milling companies. However, the project management and implementation costs of the project would receive budgetary support (with IDA credit assistance) for the period of project implementation. Implementation of Component 1 would be consistent with the PIM, including the Smallholder Oil Palm In-fill Planting Sub-Manual, the Road Reconstruction Sub-Manual, the Financial Management Handbook, the EMP and the RPF.

5. Additional OPIC field staff would be recruited to levels that can manage the Project in-fill and extension programs and the smallholder replanting program envisaged by OPIC and the milling companies. As recommended by the Social Assessment, OPIC would appoint, train or recruit staff for land related issues (up to two per scheme), gender issues, general welfare and HIV/AIDS. There would be a relatively small increase in infrastructure and equipment support. At the end of the project, current and anticipated staffing and other recurrent costs would be covered by the OPIC smallholder levy with parallel contributions from the palm oil milling companies. During the project, the incremental items would be covered by the development budget on a sliding scale beginning with full coverage in the first three project years ending with OPIC covering 50% costs in the last two project years.

6. Technical assistance would be provided for an Extension Specialist to provide assistance to OPIC for increasing smallholder oil palm productivity. The Extension Specialist would be on full time for the first two years of the project and then have inputs of two month twice a year for the remaining three years.

7. It is envisaged that the channeling of funds to smallholders would be similar to that successfully used in the World Bank-supported Oro Smallholder Oil Palm Development Project that was completed in 2001, with one important exception. Under the Oro project, the funds were passed through the OPIC development budget, whereas in this project the PNGSDP would be the source of funds and would carry the individual loan ledgers. The milling company supplies and pre-finances the establishment inputs (seedlings, fertilizer, tools, etc.) other than labor, and debits the account of the individual smallholder. When this debit occurs, the milling company would account for and reclaim the expenditures on a monthly basis from PNGSDP. The palm oil milling companies would bear the cost of administration of the system on their own account. Smallholder credit repayment would be managed by palm oil milling companies through deductions from fortnightly payments for delivery of FFB.

8. A project engineer (International), attached to OPIC, would oversee the road engineering, tendering and equipment procurement and give support to the Oil Palm Infrastructure Development (OPID) Units that would be established at each OPIC scheme office. Each OPID office would be headed by an engineer seconded from DOW. The OPID units would prepare operational plans for reconstruction and maintenance and provide local supervision.

9. The guaranteed funding of the maintenance program would be provided in the form of a Road Maintenance Trust Fund (RMTF), one for each scheme, supported by end-users of the network. The proposal is for 25% of the required funds for annual maintenance to be contributed by smallholder oil palm growers, 25% by the palm oil milling companies and 50% by the provincial governments. The providers of road maintenance services would be paid from the RMTF, with

withdrawals being under the signatures of OPIC and another representative of the RMTF board. Each RMTF would be held in a commercial bank and would earn interest on periodic surpluses in the account. Seed capital to the extent of 25% of the annual requirement in each fund would provide a funding cushion that should prevent any disruption to the maintenance program.

Component 2: Implementation Arrangements

10. **DPLGA Steering Committee (working group).** A working group of the current Steering Committee set up for the Provincial Performance Improvement Initiative at DPLGA would be regularly informed of the progress of Component 2. DPLGA would be involved in monitoring implementation of Component 2 and the costs of yearly visits to the project sites and attendance to workshops have been budgeted under the project.

11. **Management Agency.** A Management Agency would be contracted by GoPNG (through OPIC) to provide management services for Component 2 implementation. The agency would be responsible to i) set up LCTs at the provincial level; ii) select and contract consultants and service providers to carry out all capacity building activities; iii) carry out M&E activities; and iv) transfer the grants to an LLG account managed by the LCT, and transfer sub-project funds to SIT accounts upon requests from the LLGs, and in the conditions described in the PIM. The management contract would require the Management Agency to cooperate with all project reporting, financial reporting and audit requirements. In addition, the Management Agency would be expected to provide overall coordination of the component, and to liaise with national authorities and IDA. Implementation of Component 2 would be consistent with the PIM, including the Community Development Sub-Manual, the Financial Management Handbook, the EMP and the RPF.

12. **Local Coordination Team (LCT).** Day-to-day coordination of Component 2 would be provided by a LCT in each project province, recruited and managed by the Management Agency. The role of the LCTs would be to:

- provide support to the LLGs and district administration in the implementation of the planning, budget and implantation processes described in the PIM;
- assist in project monitoring and evaluation;
- produce progress reports; and
- manage grant accounts for the LLGs and authorize disbursements to SIT accounts, upon request by the LLGs.

13. Staff of each LCT would include: (a) a Community Participation Specialist; and (b) a Financial Management Specialist. The LCTs would be located in the provincial/district building would be expected to reinforce the capacity of the provincial/district administration to interact with local communities and LLGs.

14. **District and provincial administration.** The district and provincial administration would be responsible to provide technical and extension support to the LLGs in the implementation of their plans and budgets. It would also ensure that sub-projects meet appraisal criteria as defined in the PIM, in particular environmental and social safeguards, and would provide technical supervision of sub-projects.

15. **Local-Level Governments (LLGs).** The LLG manager, with support of the LCT, would be have the overall responsibility for ensuring that the participatory planning & budgeting and implementation processes are on track and comply with the PIM. LLG development councils (comprising two representatives of each ward, one of which should be a woman) would be responsible for discussing plans and prioritizing sub-projects. The existing LLG Financial and Economic Committee would prepare the final yearly budget, to include the priority sub-projects selected by the LLG Development Councils. LLG assemblies would endorse the budget as part of their regular budget sessions, and would forward it to the JDP&BPC.

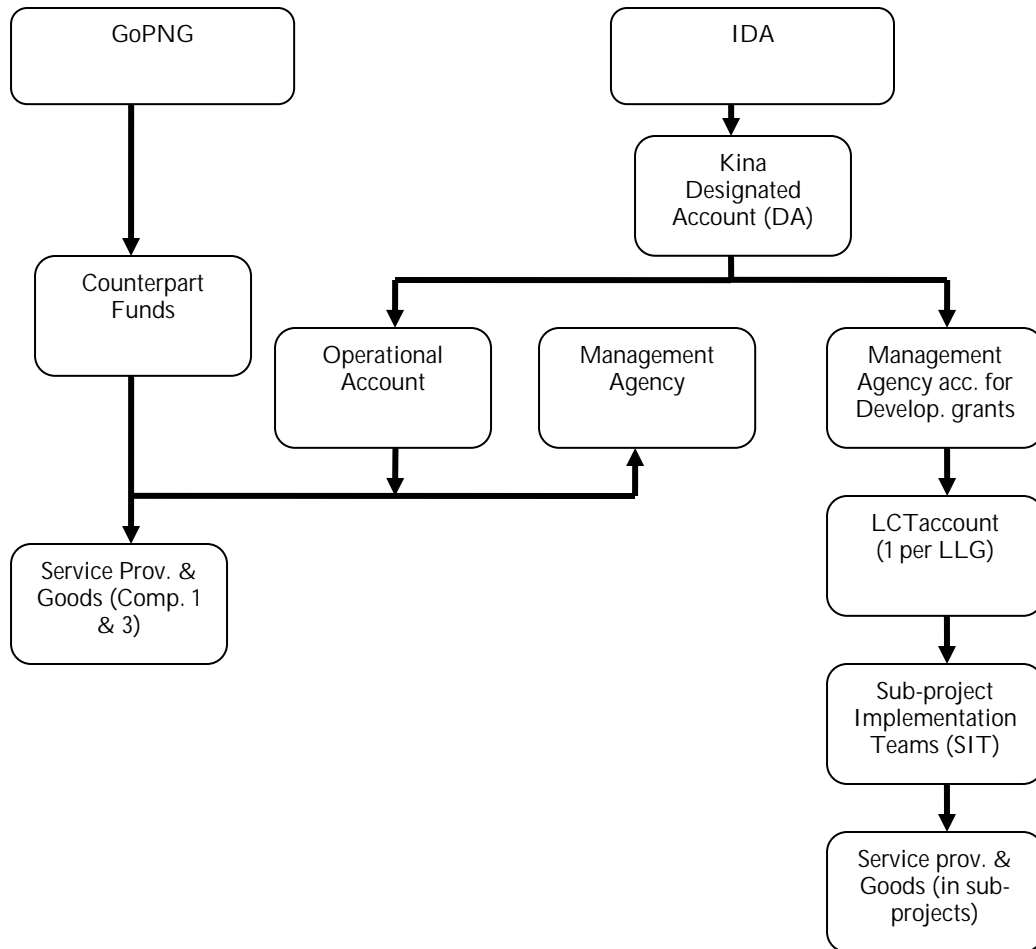
16. **Ward Development Committees.** WDC would co-opt additional representatives of groups within the ward in order to make the community truly representative. Training would then be provided covering roles and responsibility, priority setting and proposal preparation.

17. **Community Sub-project Implementation Teams (SIT).** For each approved sub-project, a community sub-project implementation team would be set up. A SIT should include two members of the WDC and at least three members selected by the community or sector benefiting directly from the sub-project (at least half of the members should also be women). Its role would be to carry out all procurement activities and payments under the sub-project, and ensure participation in all planning, implementation, and operation and maintenance stages of the sub-project. This would include arranging contributions in cash and kind as agreed.

18. **NGOs, CSOs and service providers.** They would be contracted by the Management Agency to train and support networks of Community facilitators. They would also be contracted out by the SIT on a sub-project basis to provide technical assistance in sub-project design and implementation as required (in which case they would be paid out of the community contribution), and to implement capacity-building activities. NGOs would be invited to assist in all open meetings and in particular in the Participatory Planning and Budgeting session of the LLG Development Council.

19. **Community facilitators.** They would be identified and employed by the Management Agency through networks of local institutions (such as NGOs, churches, etc.). They would be responsible to relay information to the communities and provide support to the communities during the participatory planning and budgeting processes, and during monitoring of sub-project implementation.

20. The following chart illustrates the flow of funds:



Annex 7: Financial Management and Disbursement Arrangements
PAPUA NEW GUINEA: Smallholder Agriculture Development Project

1. The desired outcome/result of project financial management (FM) arrangements is that project funds, including counterpart funds where applicable, would be used for the purposes intended. The identified financial management risk is of the credit proceeds not being used for the purposes intended, and is a result of a combination of country, sector and project specific risk factors. Taking into account the risk mitigation measures proposed the FM risk rating for SADP is **modest**.

2. The Financial Management Assessment was undertaken according to Financial Management Practices in World Bank Investment Operations (Guidelines to staff) issued by the Financial Management Sector Board in November 2005. The proposed financial management arrangements would meet the minimum requirements as stipulated in OP/BP10.02, and are described in the Financial Management Handbook in the PIM.

Implementing Agency

3. The Oil Palm Industry Corporation (OPIC) would be the institution that implements the project on behalf of GoPNG. OPIC is a State Statutory Organization that was established under the provisions of the Oil Palm Industry Corporation Act 1992. OPIC received government funds for the first five years of its operation. OIPC implemented the World Bank financed Oro Smallholder Oil Palm Development Project from 1993 to 2001. The project's outcome rating at ICR stage was assessed as Satisfactory. OPIC is now mainly financed by funds raised by a levy on oil palm fresh fruit bunch imposed by GoPNG.

4. OPIC has not performed well in recent times from a corporate governance perspective. The board has met infrequently and a chairman has been in place only sporadically. Audit reports from 2003 and 2004 found irregularities and weaknesses which OPIC management have only partially addressed. OPIC currently lacks the financial management capacity to undertake the project, both in terms of Human resources and systems. The project therefore includes a significant investment in building the capacity of OPIC with a view to avoiding the issues that have arisen in the past; this includes a financial management improvement plan.

5. The project would be implemented in an environment which has substantial risks. The country has had a poor record of fiscal management and difficulties in containing its volatile expenditure patterns. Although in the last three years the government has made significant improvements, the Transparency International corruption perception index for year 2006 ranks the country on number 130 out of 163 on its list. Risk mitigation measures are included in the project design to ensure that good governance is systematically addressed. Lack of adequate audit staff numbers at the office of the Auditor General is another factor affecting accountability.

6. OPIC would have overall responsibility for project implementation on behalf of GoPNG, and would be the primary agent for managing fund transfers from the national budget and from IDA. OPIC would be directly responsible for the implementation of Components 1 and 3 but would recruit a Management Agency to implement Component 2. OPIC would retain responsibility for oversight of the performance of the contracted Management Agency. OPIC would recruit the

Management Agency for Component 2 immediately after effectiveness. The Management Agency would set up Local Coordination Teams (LCT) in each project province.

Project Description

7. The major part of the project deals with the smallholder oil palm sector with support for road infrastructure, planting of oil palm and institutional support (Components 1 and 3) and would be implemented directly by OPIC. Component 2 deals with supporting a community-driven development process for which a Management Agency would be recruited.

8. Total project costs are estimated at US\$68.8 million (m) (with contingencies). GoPNG (US\$7.4m), West New Britain (WNB) Provincial Government (US\$7.2m), Oro Provincial Government (US\$3.5m), palm oil milling companies (US\$5.7m), smallholder oil palm growers (US\$7.3m) and PNG Sustainable Development Program (PNGSDP) (US\$10.2m).

9. The table below indicates the amounts allocated and the percentage of project expenditures financed by IDA under disbursement categories.

Disbursement Category	IDA Amount allocated (US\$ million equivalent)	National Govern.	Percentage financing by IDA	Others	Total
1. Civil Works	15.00	4.0	90%		20.2 b/
2. Goods	2.50	0.4	a/	0	3.0 b/
3. Consulting Services & Training	5.20	0.2	100%	0	5.9 b/
4. Development Grants	1.70	0	100%	0	1.8 b/
5. Incremental Operating Costs	1.10	2.8	60%	0.8	4.8 b/
Unallocated	2.00	--	--		c/
Non Bank Financed	0	0		33.1	33.1
TOTAL	27.50	7.4		33.9	68.8

a/ 100% Foreign Expenditures; 100% Local Expenditures (ex-factory); 85% Local Expenditures for items procured locally; 100% for IAPSO

b/ Total project costs per disbursement categories include amounts under IDA unallocated

c/ Amount included under each disbursement category total

Non-Bank Financed Activities (US\$ million)

Activities	PNGSDP	Provinc Gov. (WNB & Oro)	Small- holders	Palm Oil Milling Companies.	Total Project Costs
Oro Road Reconstruction (105 km)	2.9				2.9
Road Maintenance		10.7	5.3	5.3	21.3
Road Maintenance Fund	1.1				1.1
Agricultural Materials	6.2		1.6		7.8
TOTAL	10.2	10.7	6.9	5.3	33.1

10. It is noted that under Component 1, there is a proposal to establish a Road Maintenance Trust Fund (RMTF) in each project area. Other than financing a study to design the RMTF arrangements IDA funds would not be involved. GoPNG has agreed to the establishment of the funds which would be managed in accordance with the Public Services Financial Management Act. While the composition of a Fund Board representing contributors to a Fund has been described, and the operational aspects have been developed for discussion purposes with the stakeholders involved, the legalities of the Fund instrument would be formalized and the instrument processed after credit effectiveness. IDA would need to ensure that the funds are established having regards to principles of good governance – summarized below – so as to avoid even the perception of inappropriate use of the funds to the advantage of any particular stakeholder (See the Appendix to this Annex).

11. The sustainability of the trust funds depends on contributions from Provincial government that have a poor track record in supporting provincial road infrastructure; this risk is to be addressed by having a fall back obligation on the national government in the event of the provincial governments not meeting the annual commitments to the road maintenance fund and possible earmarking of tax receipts.

Risk Assessment

	Source of Information	Concept Risk Rating (H, M, L)	Appraisal Risk Rating (H, M, L)	Reasons for High Rating	Mitigation Measures	Comments
INHERENT RISKS						
1. Country Level						
1.1 Country Public Financial Management Systems	PERR Mission Reports and draft PEFA assessment	High	High	Public Financial Management systems suffer from systemic weaknesses (poor capacity, non compliance, weak chart of accounts etc.), the project is reliant on counterpart funding which to date has been sporadic at the provincial level. Despite recent good economic performance there remains some concern that this could rapidly turn about. Risk After Mitigation: High	Continued Monitoring of PERR mission reports. Earmarking of tax revenues for counterpart financing. Involvement of National government in counterpart funding discussions.	Although OPIC comes under the umbrella of the financial management act it is autonomous and therefore systemic issues seen in Government departments do not necessarily flow through to OPIC
1.2 Country Portfolio Indicators	Bank Systems		High	PNG has two portfolio flags at present: Country Environment Country Record In addition PNG has one outstanding Audit Report. Risk After Mitigation: Modest	Frequent supervision in the early implementation phases GoPNG has agreed to a time bound plan to deliver audit reports (prior to processing of the project)	

	Source of Information	Concept Risk Rating (H, M, L)	Appraisal Risk Rating (H, M, L)	Reasons for High Rating	Mitigation Measures	Comments
<p>2. Entity Level The implementing agency is OPIC, in addition the CDD component whilst managed by OPIC (through a Management Agency) would be implemented by community groups.</p>	<p>Draft PAD, audit reports (2003 and 2004), FM Assessment missions and FM Assessment report (based on field missions).</p>	<p>Risk Rating High</p>	<p>OPIC has not yet been able to provide its audit for 2006. Audits for previous years showed serious accountability concerns and whilst OPIC has taken some action to address these (including a change of personnel) further action is required. In 2006 OPIC has operated with no effective governance structure, the board of directors does not meet on a regular basis and a chairman has been in place only on a sporadic basis. This was not the case before and the situation is being addressed. The LLG and provinces do not have experience in implementing projects and in general local government has a poor record of governance in PNG (including delayed, or no audits, lack of financial statements and undue political influence). Risk After Mitigation: Modest</p>	<p>An OPIC response to the audit report (which if necessary should include a time bound action plan to address weaknesses identified in the audit) should be provided to the bank by effectiveness. The Board of OPIC should receive the six monthly progress reports for comment and approval. Activities at the community level should be ring fenced and heavily supervised (as per the PAD design) until capacity is built at the LLG.</p>		

	Source of Information	Concept Risk Rating (H, M, L)	Appraisal Risk Rating (H, M, L)	Reasons for High Rating	Mitigation Measures	Comments
3. Project Level						
3.1 Project Size The project is located in two provinces with an IDA investment of SDR17.7 million (US\$27.5 million equivalent)	Draft PAD.	Modest	Modest			By PNG standards the project is relatively modest both in size and geographic spread
3.2 Project Complexity		High	High	Whilst each activity on its own might be regarded as straightforward when put together the diverse nature of the proposed activities would increase the complexity in managing the project. Whilst PNGSDP (the co-financier) is largely financing separate activities there is a need for OPIC to report on the project as a whole. The establishment of the Road Maintenance Fund(s) would also prove to be a challenge for OPIC Risk After Mitigation: Modest	The PAD indicates that OPIC would be strengthened in order to manage the increased activities and that the establishment of the Road Maintenance Fund(s) would be after an intensive design phase.	
OVERALL INHERENT RISK		High	High	After Mitigation Modest		

	Source of Information	Concept Risk Rating (H, M, L)	Appraisal Risk Rating (H, M, L)	Reasons for High Rating	Mitigation Measures	Comments
CONTROL RISKS						
<i>1 Budget</i>	Draft PAD, FM assessment mission, supervision of current portfolio, report on capacity of sub-national government (WB Mission Oct 2006)	<i>Low</i>	<i>Low</i>			At the provincial government level budgets lack credibility – this is a major concern for co-financing of the Road Maintenance Fund but should not impact on IDA financed activities.
<i>2 Accounting</i>						

	Source of Information	Concept Risk Rating (H, M, L)	Appraisal Risk Rating (H, M, L)	Reasons for High Rating	Mitigation Measures	Comments
2.1 Capacity of Project Management and FM Staff	FM Assessment report and missions, Audit Reports	High	High	<p>OPIC last managed a WB project several years ago and some institutional memory has been lost. The additional workload that the project would bring cannot be accommodated within the existing staffing arrangements.</p> <p>At the community level there is likely to be no experience in the maintenance of the requisite records (even in their simplest form).</p> <p>Risk After Mitigation: Modest</p>	<p>Recruitment of two additional accounting staff.</p> <p>PIM for CDD component to include clear and precise instructions including general community participation in all stages of a projects life, community reports, publication of project information.</p> <p>Tranche disbursements for CDD projects</p> <p>Intense supervision of project by OPIC management.</p> <p>PAD provides for the recruitment of local coordination team in each province for Component 2.</p> <p>Provision of hands-on training to OPIC staff at project start up and reinforcement at a suitable time later.</p>	

	Source of Information	Concept Risk Rating (H, M, L)	Appraisal Risk Rating (H, M, L)	Reasons for High Rating	Mitigation Measures	Comments
2.2 Accounting Systems	FM Assessment report and missions	<i>Modest</i>	<i>Modest</i>	<p>OPIC is currently moving to a new accounting system – the chart of accounts for the new system should allow for maintenance of project accounts. As yet this has not been completed.</p> <p>Associated with this transition is the rewrite of the accounting systems manual for OPIC.</p> <p>The Financial Management requirements for the proposed Road Maintenance Fund(s), which would include record keeping for receipt of levy may differ from OPIC requirements.</p> <p>Risk After Mitigation: Low</p>	<p>MYOB accounting system and procedures to be implemented by effectiveness (as reflected in the PIM)</p> <p>Requirements for the Road Maintenance Trust Fund(s) to be considered during the design phase of the fund.</p>	
3 Internal Controls	FM Assessment report and missions, Audit Reports	<i>High</i>	<i>High</i>	<p>Basic internal controls, such as division of duty, are not implemented routinely by OPIC. External audit reports have also criticized lack of basic controls, such as reconciliations. In part these weaknesses can be attributed to the lack of staffing (see above). OPIC does not currently benefit from an internal audit function.</p> <p>Risk After Mitigation: Modest</p>	<p>Additional Staff (see above)</p> <p>Expand scope of external audit to include a review of internal controls</p> <p>Work with OPIC to develop an internal audit strategy during the first year of implementation.</p>	

	Source of Information	Concept Risk Rating (H, M, L)	Appraisal Risk Rating (H, M, L)	Reasons for High Rating	Mitigation Measures	Comments
4 Funds Flow	FM Assessment report and missions, draft PAD, draft legal agreements	<i>Modest</i>	<i>Modest</i>	<p>There is a danger that counterpart funding would not be provided. For the IDA financed activities counterpart funding would come from central government directly to OPIC.</p> <p>For activities financed by other parties to the project, in particular the road maintenance fund, there is a real danger that provincial government may not be able to provide the necessary contributions.</p> <p>Risk After Mitigation: Modest</p>	<p>OPIC would complete an annual request for budget funds in a timely fashion</p> <p>Consideration would be given to earmarking provincial tax revenues to the road maintenance fund</p>	<p>The arrangement of designated accounts and disbursement methods is straight forward.</p>
5 Financial Reporting	FM Assessment report and missions, draft PAD, draft legal agreements	<i>Modest</i>	<i>Modest</i>	<p>The risk in financial reporting comes from whether OPIC would be able to consolidate information from all activities into a single report. Whilst the activities managed directly by OPIC should present little difficulty, OPIC would be dependent on information from others for the consolidated information.</p> <p>Risk After Mitigation: Low</p>	<p>Draft format to be included in PIM</p> <p>Agreement with co-financier on provision of information</p>	

	Source of Information	Concept Risk Rating (H, M, L)	Appraisal Risk Rating (H, M, L)	Reasons for High Rating	Mitigation Measures	Comments
Auditing	FM Assessment report and missions	High	High	<p>There are two audit issues:</p> <p>a) at a portfolio level, there is one outstanding audit report</p> <p>b) arrangements for future audits could be undermined by administrative bottlenecks</p> <p>Risk After Mitigation: Modest</p>	<p>A timetable has been agreed with the auditor general as to the delivery of the outstanding audit report (expected by end-june 2007)</p> <p>The Terms of reference for future audits (which would be subcontracted to the private sector by the Auditor General) would require that a copy of reports prepared by the private sector auditor be delivered also to the Bank</p>	
OVERALL CONTROL RISK		High	High	After Mitigation: Modest		
OVERALL RISK RATING		High	High	After Mitigation: Modest		

Financial Management Arrangements

12. The financial management arrangements for the project would be mainstreamed into OPIC's financial systems at its head office. The Head Office Accounting Department of OPIC is headed by a financial controller in Port Moresby who is assisted by one accountant. At provincial level, each office has an accountant assisted by one clerk. The current financial controller is qualified for his job. The rest of the accountants in provinces are qualified for their jobs; some have extensive experience including government accounting and exposure to donor funded projects. Job descriptions are as per OPIC's manual of accounting systems. OPIC is currently implementing five projects in its various project sites throughout the country. While the current staffing arrangements are adequate to meet OPIC's financial management mandate for their current circumstances, they are inadequate for the workload and responsibilities that would be incurred under SADP. To address this situation, two additional accountants would be recruited for the head office, and all accounting staff would be required to undertake orientation classes to understand the project accounting requirements. The head office recruitment would also address the current undesirable practice of having a single accountant undertaking the majority of tasks on his own without interaction with other accounting staff; this is particularly important in view of the limited internal controls that are in place.

13. OPIC does have a well written accounting systems manual but it has not been regularly updated since its introduction in 1996. The new financial controller and his staff recently revised the manual in preparation for the introduction of new software (MYOB). MYOB should allow for disaggregated recording of transactions. As such, proper recording of project financial transactions, including the allocation of expenditures in accordance with respective components, disbursement categories and sources of funds should be possible.

14. The recruitment of an internal auditor has been recommended by OPIC's external auditors on a number of occasions. The justification being made by the auditors is that the activities and transactions of numerous projects have demonstrated that internal controls need to be strengthened. SADP would work with OPIC to establish an internal audit strategy.

15. In addition to the points noted above OPIC has agreed to increase its financial management capacity through: (a) training the financial controller and project accountants in the use of improved accounting systems; (b) increasing the OPIC finance/procurement staff in the head office (Port Moresby) by three staff; (c) updating the current chart of accounts; (d) putting into place internal audit systems; and (e) training the financial controller and one staff each in Port Moresby, Oro and WNB in procurement (the project is providing for a procurement specialist for 2 years who would provide in-house training of the financial staff in procurement matters and related accounting obligations).

Additional Financial Management Arrangements – Component 2

16. For Component 2, risk arises from low financial management capacity in the stakeholders involved. The absence of a culture of accountability and service delivery at community level, local level government (LLG) and at provincial level government constitute a risk. Government's current system established for managing funds at decentralized levels is dysfunctional. The project design has therefore built in a number of measures, described below, to enhance governance and reduce the risk of corruption.

17. The Management Agency would be responsible for LCT staff recruitment and management; selection of service providers to assist in capacity building at LLG, ward and community levels; monitoring and reporting; and overall financial management of the component (supported by the appointment of accounting staff in each of the LCTs). The LCTs would coordinate activities in each province, provide support to the wards, LLGs and district administration in planning and budget processes; manage a local account where the LLG Development grants would be transferred by the Management Agency; and transfer, from that account, the sub-project grants to the communities. These Sub-project grants would be paid to accounts managed by Sub-project Implementation Team (SIT), representing the recipient communities and beneficiaries and responsible for the implementation of individual sub-projects, including community procurement and accounting. LLG Development grants would be managed by LCT during the first two years of the project, and would only be passed through the LLGs (through their accounts in the district treasuries) once the Management Agency and other stakeholders, including IDA, are satisfied that the district treasuries have developed the ability to efficiently and transparently manage the funds.

18. Communities would engage in a participatory planning and budgeting cycle based on mechanisms described in the Community Development Sub-Manual in the PIM. A first level of community prioritization would be done at the level of the existing Ward Development Committee and would ensure inclusion of a wide range of community members, including disadvantaged groups such as women, youth and elders. A participatory planning and participatory budgeting exercise would then take place at the level of the LLG, through an ad-hoc committee comprising a mix of community representatives (selected by their communities at ward level, and with quotas for women) and the existing elected representatives (the ward councilors). All of these meetings would take place at a place and date communicated well in advance to all communities, and would be open public meetings where NGOs, CBOs, private sector, women's organizations etc would be able to participate (with no right of voting), ask questions and increase transparency and accountability of the decision making process. The resulting budget would then be formally endorsed by the LLG Assembly (composed of the same ward councilors mentioned above) with no right to overrule it. The approved budget would be communicated by the LLG to the JDP&BPC and the provincial government. The list of approved sub-projects would be communicated to the wider community through the most effective local communication channels (including community radios where they exist, church communication networks, etc). The list of approved sub-projects would also be communicated by the Management Agency to OPIC for information, as part of regular bi-annual progress reports.

19. The sub-projects included in the yearly budget would be considered as approved in principle (and would then need to go through a technical design and technical review to ensure that they conform to social and environmental safeguards and costing with support of the LCT, etc). An ad hoc committee organized for each sub-project would be formed (the Sub-project Implementation Team - SIT) and would consist of elected representatives of the recipient community, selected specially for this purpose. The SIT would include as a minimum a chair person, a Treasurer and a representative of the direct beneficiaries of the sub-project.

20. The funds for the sub-projects in each LLG would be drawn from the Community Support Account (CSA) by the Management Agency at quarterly intervals in accordance with requirements for that quarter as projected by the LCTs. These funds would be deposited in accounts held by the LCTs tagged for each LLG. Each SIT would open a bank account (in form of a bank statement which shows the accounts name and account number) in a local commercial

bank of their choice. Authorized signatories to the account would be such as to minimize the opportunity for delinquent behavior.

21. Upon a request through the LLG from a SIT for disbursement on a sub-project, the LCT would disburse the first tranche as an agreed percentage direct into the bank account of the SIT through a bank transfer. The SIT would keep a simple note book in which it would use one page to record the date, the amount of money they would have received. On the opposite page, it would record the date, the items acquired and the amount. For each purchase, the SIT together with the community would obtain a receipt. Such receipts would be kept simply.

22. When 80% of the first tranche has been spent, a community, through its SIT, would list all its expenditures detailing, date, who was paid, for what and the amount. It would also attach all copies of the receipts obtained for the expenditures listed. The list would be reviewed by the LLG, with the support of the LCT. After review, the LLG report would request disbursement of the remaining funds by the LCT or decide on alternative action, on the advice of the LCT.

23. The SIT would also keep a note book in which it would record all in-kind contributions. These may be sand, bricks, and hours of work done, etc. Any receipt of cash from the community would be recorded in the same notebook but on a different page.

24. At the end of the sub project, the SIT would inform the LLG that their sub project has been completed. Any savings made by the SIT would remain with the community and would be used towards maintenance, etc. as described in the PIM. This is to encourage the SIT to select the best contractors at the best price and increase the capacity of the SIT and the community to carry out sound procurement processes. The LLG would report to the Management Agency, with the support of the LCT, on the completion of sub-projects and in the conditions described in the PIM.

Disbursement and Funds Flow Arrangements

25. A Subsidiary Agreement would be signed between the Borrower and OPIC, which defines the terms and conditions under which the Credit funds would be made available to OPIC as the implementing agency. OPIC would open a single Designated Account (DA) to receive IDA funds in any commercial bank of its choice. OPIC, through the Ministry of Finance, would make the initial request for the advance from the project Credit account by the World Bank's Treasury Department into the DA. The currency of such a designated account would be Kina with a suggested designated ceiling of K2.0 million. OPIC would also create a parallel operational account into which the counterpart funds provided by GoPNG would be deposited. The counterpart funds under the development budget are due to be released quarterly, and unused appropriations can be carried over into the following financial year (whereas appropriations under the recurrent budget cannot). OPIC would draw on these accounts to make local payments for eligible expenditures under Components 1 and 3. These payments would include contractual payments to the Management Agency for Component 2 (which is included under institutional support in Component 3).

26. To receive the funds for the sub-project grants to communities, the Management Agency for Component 2 would open a Kina account (SADP community sub-project account – SADP CSA). OPIC would transfer funds into this account from the DA as an advance for sub project grants to communities at the request of the Management Agency, subject to appropriate

accounting for any earlier deposits.⁴³ The amount requested would be based on the expected expenditures to be incurred by communities during a quarter. As described in detail later in this Annex, at the request of the concerned LLG, funds from the CSA would be transferred to accounts held by the LCT in the name of each LLG. When conditions for disbursement to a SIT have been met, the LLG would request the LCT to release funds to the SIT. This release would occur in two tranches. SIT operations would be under the supervision of the LCTs provided by the Management Agency.

27. Balances held on the Designated Account and the SADP CSA account would form part of the overall advance received from the IDA and OPIC would need to account for these balances as such.

28. The project could use four disbursement methods: (a) advances into the DA, (b) direct payment from the credit account (c) special commitment and (d) replenishment. Where direct payment is used, this would be subject to the IDA's no objection prior to signature on the contract; it would only be used for large payments or when payments are in currencies that the borrower may have difficulty obtaining. The most commonly used disbursement method in SADP would be the advance method using the DA. This is the most appropriate considering capacity issues and the wide geographical spread of the project.

29. In the DA advance method, following the initial advance from the project Credit account, OPIC would subsequently make requests for further advances into the DA upon accounting for the equivalent amount advanced and used, with appropriate reconciliation in a defined format as per the Disbursement Letter and Disbursement Guidelines.

30. In requesting disbursements into the DA for expenditures incurred, OPIC would make extensive use of a Statement of Expenditure (SOE) record. The SOE could be used for (a) civil works contracts to a value less than US\$100,000 equivalent each; (b) goods contracts costing less than US\$100,000 equivalent each; (c) service contracts for individual consultants costing less than US\$50,000 equivalent each and for firms costing less than US\$100,000; (d) training, workshops; (e) operating costs; and (f) development grants. Disbursements for services and goods exceeding the foregoing limits would be made in accordance with respective procurement guidelines and provisions in the Financing Agreement against submission of full documentation and signed contracts.

31. All withdrawal applications would need to be processed by the Ministry of Finance who would be joint signatory on the Withdrawal Application. This would allow the Ministry of Finance to capture the necessary information to update their Debt Management and accounting systems (all expenditure under the project would be financed through GoPNG budget).

Reporting and Monitoring

32. Required reports for financial monitoring would include (a) Interim Financial unaudited Reports (IFRs), and (b) annual audited financial statements. The IFRs are required to be submitted every quarter within 45 days after the end of each period (in those quarters where a project progress report is required, the IFRs would be an annex to this report). As the Interim financial unaudited reports would also be used as a monitoring tool, it should report project

⁴³ At the request of the management agency for Component 2, OPIC would include in its development budget for each year the amount expected to be required for the CSA.

progress with adequate description and explanation and analysis of variances. The IFRs would include a report on sources and uses of funds, the project financial position, project expenditures, physical progress compared with plan, and a procurement monitoring report. The IFRs would not be subject to audit. A consolidation of such reports at the end of the fiscal year may form the basis of annual project financial statements which would be subject to an audit. The format of these reports would be incorporated into the PIM. The format could be based on the existing reports prepared by OPIC and modified to link financial information with the projects physical progress. The project's monitoring system would collect data that would synchronize it with the financial data.

External Audit

33. The project financial statements would be audited by an independent auditor acceptable to the Auditor General and to IDA based on terms of reference acceptable to the Auditor General and IDA. The audit terms of reference would require the auditor to undertake an annual review of internal controls in the project and provide for any draft reports to be provided directly to IDA. The audit report would be submitted within six months after the end of the fiscal year. The cost of the audit would be paid out of IDA funds as an eligible expenditure.

34. In addition the Bank would require that the entity audit of OPIC be submitted to the Bank within 6 months of the end of the financial year. Before effectiveness IDA would require a letter from OPIC summarizing the main points arising from the 2005 audit and setting out a time bound action plan satisfactory to IDA addressing weaknesses, if any, identified in the Audit report.

35. Summary Financial Management Improvement Action Plan

No.	Action to be undertaken by OPIC	Date by which action required
1.	Finalize Implementation of MYOB accounting software.	By effectiveness
2.	Submit a report to IDA summarizing the main points arising from the 2005 audit and setting out a time bound action plan satisfactory to IDA addressing weaknesses, if any, identified in the Audit report.	By effectiveness
3.	The following to be incorporated as part of the PIM: a) A project accounting framework and format based on the project content, with corresponding accounting instructions; this would include statements of accounting policy, new chart of accounts, and procurement monitoring formats; and b) Format for quarterly financial reports.	By effectiveness
4.	Select two accountants to work at OPIC head office.	By effectiveness
5.	Formulate a training policy for accounting staff.	1-2 month after effectiveness
6.	Review segregation of duties in the accounting department at head office and provinces.	1-2 month after effectiveness
7.	Deliver training to accounting staff as part of project launch.	1-2 month after effectiveness
8.	Commence external audit of the 2006 OPIC accounts.	1-2 month after effectiveness
9.	Engage a consultant to develop an appropriate internal audit strategy for OPIC and its field offices.	3-4 months after effectiveness

Note: Point one and two above are not effectiveness conditions.

Supervision Plan

36. SADP has substantial risk, particularly for Component 2. Financial management supervision would be undertaken every month by OPIC and the Management Agency (financial staff would be appointed to each LCT). In addition to this intensive degree of local supervision, IDA would undertake twice yearly FM supervision missions in the first years of implementation and thereafter on the basis of updated risk assessments.

Appendix to Annex 7

Good Governance Principles for the Operation of the Road Maintenance Trust Fund.

1. Focusing on the Trust Funds purpose and on outcomes for citizens and service users

- 1.1 Being clear about the Trust Funds purpose and its intended outcomes*
- 1.2 Ensuring that users receive a high quality service*
- 1.3 Ensuring that contributors receive value for money*

2. Performing effectively in clearly defined functions and roles

- 2.1 Being clear about the functions of the governing body*
- 2.2 Being clear about the responsibilities of the Governing Body and Management*
- 2.3 Being clear about relationships between governors and the public*

3. Promoting values that underpin good governance and upholding these through behavior

- 3.1 Putting organizational values of good governance into practice*
- 3.2 Individual governors behaving in ways that uphold and exemplify effective governance*

4. Taking informed, transparent decisions within a framework of controls

- 4.1 Being rigorous and transparent about how decisions are taken*
- 4.2 Having and using good quality information, advice and support*
- 4.3 Having effective controls in place, including managing risk*

5. Developing the capacity of the governance team to be effective

- 5.1 Ensuring that governors have the skills and experience they need*
- 5.2 Developing the capacity of people with governance responsibilities*
- 5.3 Striking a balance between continuity and renewal*

6. Engaging stakeholders and making accountability real

- 6.1 Understanding formal and informal accountability relationships*
- 6.2 Taking an active and planned approach to accountability to the public*
- 6.3 Taking an active and planned approach to responsibility to staff*
- 6.4 Engaging effectively with institutional stakeholders*

Annex 8: Procurement

PAPUA NEW GUINEA: Smallholder Agriculture Development Project

A. General

1. Procurement for the proposed project would be carried out in accordance with the World Bank's "Guidelines: Procurement Under IBRD Loans and IDA Credits" dated May 2004; and "Guidelines: Selection and Employment of Consultants by World Bank Borrowers" dated May 2004, and the provisions stipulated in the Legal Agreements. The general description of various items under different expenditure categories is presented below. For each contract to be financed by the Credit, the different procurement methods or consultant selection methods, the need for prequalification, estimated costs, prior review requirements, and time frame would be agreed between the Borrower and IDA project team in the Procurement Plan. The Procurement Plan would be updated at least annually or as required to reflect the actual project implementation needs and improvements in institutional capacity.

I. Procurement of Works (US\$20.2 million, Credit and Government Financing)

2. Works procured under this project would include road reconstruction and bridge construction, comprising the upgrading of about 550 km of existing provincial gravel access roads (4 to 6 meter wide) and the construction of 6 small bridges. Road upgrading work would consist of rebuilding the entire pavement, laying gravel, and restoring the drainage structure, to a standard where the roads could be maintained. The estimated 550 km of roads consist of short sections spread over the existing network of about 2,800 km of smallholder oil palm access roads in the three smallholder oil palm schemes (Hoskins, Bialla, Oro) in the two project provinces.

- a. **International Competitive Bidding (ICB):** The project is expected to include ICB civil works contracts (i.e. contracts estimated to cost more than US\$500,000), which would basically involve road reconstructions in major provincial roads. A "Slice and Package" strategy would be adopted, to attract the interest of both small and large firms. The Works are reasonably homogeneous and roads would be sliced "vertically" into sections with similar features is suited, since each slice is a complete, self-contained entity in itself. Five slices is the maximum number to be adopted. Domestic contractors would be eligible for domestic preference. The estimate aggregate amount under this method is US\$17.5 million.
- b. **National Competitive Bidding (NCB):** Contracts estimated to cost US\$500,000 or less but more than US\$50,000 are expected to be procured under NCB. Those contracts would be used for bridge and house construction. Standard Bidding Documents would be developed and agreed with IDA. The estimated aggregate amount under this method is US\$2.4 million.
- c. **Shopping:** Contracts estimated to cost less than US\$50,000 are expected to be procured under Shopping and would be applied for house and office construction and repairs. The estimated aggregate amount under this method is US\$0.3 million.
- d. **Works not financed by the Credit:** Road maintenance would not be financed by the Credit. It would be financed on a user-pay basis with contributions to a road maintenance trust fund (a separate legal entity and one for each smallholder scheme) by oil palm growers, palm oil milling companies and the provincial governments concerned. It would consist of both routine and non-routine maintenance works. Routine road maintenance would only be undertaken after road sections have been reconstructed and non-routine/emergency maintenance would be undertaken for maintenance of smallholder access roads in their respective locations, due to the need for immediate intervention to restore access for

smallholder fruit collection when the roads have been cut off following adverse weather conditions. Procurement would be in accordance to the national procurement legislation. The estimated aggregate amount under this arrangement is US\$21.3 million.

II. Procurement of Goods (US\$2.97 million, Credit and Government Financing)

3. Goods (US\$2.97 million) required for the project would comprise of road construction and maintenance machinery, vehicles and IT equipment.
 - a. **ICB:** The project is expected to include two ICB contracts (i.e. contracts estimated to cost more than US\$200,000), one for the supply of the road construction and maintenance machinery, the other one for vehicles. The road construction and maintenance equipment would be used for routine and non-routine maintenance in Bialla. This equipment would be owned by GoPNG through OPIC. The management and operation of such equipment, which is not to be financed by the Credit, would be outsourced through a competitive process. Financing for management and operation would come from the road maintenance trust fund. The estimate aggregate amount under this method is US\$2.25 million.
 - b. **NCB:** Contracts estimated to cost US\$200,000 or less but more than US\$50,000 would be procured under NCB. Those contracts would be adopted for items such as vehicles (cars and motorcycles), generators, and computers. Standard Bidding Documents would be developed and agreed with IDA. The estimated aggregate amount under this method is US\$0.49 million.
 - c. **Shopping:** Goods estimated to cost less than US\$50,000, such as cars, computers and laboratory equipment, may be procured through Shopping. The estimated cost of goods to be procured through this method is US\$0.23 million.
 - d. **Procurement from the Inter-Agency Procurement Services of the United Nations (IAPSO):** Vehicles, computers and related equipment may be procured through IAPSO.

III. Selection of Consultants (US\$ 5.72 million, Credit and Government Financing)

4. The main consultants' services would consist of the services to be provided by a consulting firm for road construction and supervision. Another key contract would be for management of community participation activities under Component 2. The ceiling for short-lists of consultants composed entirely of national consultants would be US\$100,000. In the event that sufficient numbers of qualified national firms are not available for effective competition, then the short-list would consist of both national and international consultants. For the management of community participation activities, it is likely that the short-list would be composed of Non-Government Organizations (NGOs).
 - a. **Quality Cost Based Selection (QCBS):** With regard to the assignments where the scope of work of the assignment can be precisely defined and the TOR are clear and well specified (such as the environmental and social audit – US\$0.26 million) the recommended method is QCBS.
 - b. **Quality Based Selection (QBS):** For the management of community participation activities, a qualified consultant/ NGO would be selected through QBS (US\$1.72 million). The scope of services and its duration require a degree of flexibility, as opposed to QCBS's rigidity, because of the complexity of the assignment.
 - c. **Least-Cost Selection (LCS):** A contract to be selected under this method would be for the road construction and supervision assignment (approximately US\$1.70 million). The

assignment involves simple engineering designs and supervision projects. Another contract would be for the audit of the project accounts (US\$0.25 million).

- d. **Selection Based on Consultants' Qualifications (CQS):** Regarding small assignments (below US\$100,000) of a routine nature, such as training and/or facilitation, a qualified consultant firm may be selected through CQS method.
- e. **Individual Consultants:** International consultants, as well as local ones, may be appointed by OPIC to assist in project implementation and to provide technical assistance. They should be selected through a comparison of qualifications of at least three qualified consultants among those who have expressed interest in the assignments or have been approached directly by OPIC. In addition, with appropriate justifications and after concurrence by IDA, individual consultants may be selected on a sole-source basis in exceptional cases, such as: tasks that are continuation of previous work that the consultants have carried out and for which the consultants were selected competitively; assignments lasting less than six months; and when the individual consultant is the only consultant qualified for the assignment.

IV. Community Grants (US\$1.82 million, Credit and Government Financing)

5. The project would finance a number of activities under Component 2 - Local Governance and Community Participation. The objective of this component is to develop sustainable mechanisms for local governance, supplementing current grants provided by the national government to Local Level Governments (LLGs). A Management Agency would be selected by OPIC to implement this component. (Contracting of the Management Agency by OPIC would be a condition of disbursement of the community grants.) In a process to be detailed in the Project Implementation Manual (PIM), the Management Agency would be required to establish Local Coordination Teams (LCT) to provide direct support to each LLG. Communities willing to present a sub-project would set up a Sub-project Implementation Team (SIT), which would comprise two members of the WDC and at least three members selected by the beneficiary community. The SIT would receive funds from the Management Agency upon satisfactory completion of sub-project appraisal and signature of a sub-project agreement. It would be responsible for all procurement under the sub-project, and for all payments (for which two signatures would be required). The selection criteria and the process for allocation, sample agreements, procurement and disbursement of the grants would be in accordance with the PIM and the following procedures:

- 1. **Goods:** Most goods consist of rehabilitation materials, Radio HF transceivers, batteries, solar panels, rice mills, etc.
 - a) **Direct contracting:** Because of the small size of the individual purchases and since a comparison of prices may not be practical due to quality and distance considerations, procurement of materials costing US\$5,000 or less per contract may be through direct contracting from local markets or suppliers.
 - b) **Shopping:** Except as provided above, for goods that are estimated to cost more than US\$5,000 or less per contract, a comparison of three quotations would be required.
- 2. **Works:** Most grants involve only minor rehabilitation works. For example, building or rehabilitation and equipping of aid posts, housing or transport for Community Health Workers, rehabilitation or repair of school buildings, new teachers' housing or repair, and water supply (rainwater tanks, pipes, wells, new or rehabilitated latrines).

- a) **Direct contracting:** Because of the small size of the individual contracts and since a comparison of prices may not be practical, procurement of works costing US\$7,000 or less per contract may be through direct labor.
 - b) **Shopping:** Except as provided above, for works estimated to cost more than US\$7,000, a comparison of quotations would be required. Procurement of such small works would be under lump-sum, fixed price contracts awarded on the basis of quotations obtained from at least three qualified domestic contractors in response to written invitations. The invitations for quotation would include a detailed description of the works including basic specifications, the required completion date, and a form of agreement acceptable to the Bank, and relevant drawings where applicable. The award would be made to the contractor offering the lowest price quotation for the work and who has experience and the resources to complete the contract successfully. If three qualified contractors are not available within the community area, the contract may be awarded on basis of two quotations or awarded directly to a sole qualified contractor.
3. **Individual Consultants:** Services to be provided by local consultants would involve training and workshops and would follow the individual selection procedures on the basis of comparison of qualifications.
- a) **Sole Source:** Because of the small size of the individual contracts and since a comparison of three qualified candidates may not be practical, then selection of individual consultants costing US\$2,500 per contract or less may be through Sole Source.
 - b) **Comparison of three qualified candidates:** Except as provided above, for individual contracts that are estimated to US\$2,500 or less per contract, a comparison of three qualified candidates would be required. There would be no contracts above US\$10,000.

V. Incremental Operating Costs (US\$2.06 million, Credit and Government Financing)

6. This item would include communications, utilities, stationary, transportation, accommodation and allowances (e.g., review meetings). The procurement of such items would follow the implementing agency's administrative procedures.

VI. Training (US\$0.1 million, Credit and Government Financing)

7. Training (domestic and overseas) would be necessary to strength the capacity of OPIC in implementing the project.

B. Assessment of the agency's capacity to implement procurement

8. An assessment of the capacity of the Implementing Agency (OPIC) to implement procurement actions for the Project was carried out in February/March 2007. The assessment reviewed the organizational structure for implementing the Project and the interaction between the staff responsible for procurement and other national agencies. The overall Project risk for procurement is "high", consistent with the CPAR. Most of the issues/ risks concerning the procurement component for implementation of the Project have been identified as: OPIC's lack of procurement expertise, recent changes in the national procurement regulations, and complex

procurement scope (civil work contracts in remote areas). The following action plan has been adopted:

Perceived Risk	Action	Timeframe
Several legal provisions do not conform to IDA's policy regarding NCB:	Inclusion of Special Procedures for National Competitive Bidding into the project's Legal Agreements	Agreed during negotiations
(i) insufficient bid preparation time		By effectiveness
(ii) criteria other than price that are not specified in bid documents can be used for bid evaluation	Provisions to be summarized in the Project Procurement Manual	During implementation
(iii) contract award may not be made to lowest evaluated qualified and responsive bidder	Provisions to be reflected in bidding documents approved by IDA	
(iv) price negotiations conducted with "winning" bidders prior to contract signature		
(v) no requirement for public notice of contract awards		
(vi) ineffective bid protest mechanism		
(vii) no provisions related to resolving contractual disputes		
Implementation of recent changes in the national procurement regulations	Promote meetings between OPIC and CSTB	Completed
Widespread perception of corruption and weak capacity of oversight agencies constraints to carry their mandate.	Project auditing would be conducted by an external firm, acceptable to the Auditor General and hired by OPIC	Agreed during negotiations
Specific risks:		
(i) weak selection of the tender / evaluation committees and other teams responsible for decision making	The PIM will include steps of the membership selection process and minimum qualifications	By effectiveness
(ii) inadequate preparation of estimates for procurement packages	The PIM will include guidelines for the preparation of estimates	By effectiveness
(iii) bid/proposal evaluation: collusion between tender committee and bidders; delay in evaluation process that would benefit certain bidder(s)/consultant(s); proposals are rejected for reasons unrelated to the capacity of the bidders in carrying out of the contracts/services; false information about the information provided by the bidders	Low prior review threshold agreed in the Financing Agreement; the PIM will outline strong verification procedures	During implementation
Project implementation delays as procurement planning is not fully adopted by OPIC	Preparation of a procurement plan	Completed
OPIC's procurement capacity is weak	Procurement training	Completed in March 2007
	Consultant to assist OPIC on procurement	During implementation

Complex procurement scope – civil work contracts in remote areas	OPIIC to conduct a detailed study (with the assistance of procurement and engineering consultants) on the capacity of national and regional contractors; this should establish the rationale for a “slice and package” strategy	Before procurement for civil work contractors
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C. Procurement Plan

9. The Borrower, at appraisal, developed a Procurement Plan for project implementation which provides the basis for the procurement methods. This plan was agreed between the Borrower and the Project Team during appraisal and finalized in March 2007 and is available at OPIIC’s head office. It would also be available in the Project’s database and in the Bank’s external website. The Procurement Plan would be updated in agreement with the Project Team annually or as required to reflect the actual project implementation needs and improvements in institutional capacity.

D. Frequency of Procurement Supervision

10. In addition to the prior review supervision to be carried out from Bank offices, the capacity assessment of the Implementing Agency has recommended twice a year supervision missions to visit the field to carry out post review of procurement actions. Subject to satisfactory performance, in consultation with the Regional Procurement Manager, this frequency of supervision may be reduced to once a year.

E. Prior Review Thresholds

- a. Civil Works would include: (a) all contracts awarded on the basis of ICB; (b) contracts estimated to cost US\$100,000 or more awarded on the basis of NCB; and (c) first three contracts awarded on the basis of Shopping. The remaining contracts would be subject to post review on a sample basis.
- b. Goods would include: (a) all contracts awarded on the basis of ICB; (b) contracts estimated to cost US\$100,000 or more awarded on the basis of NCB; and (c) first three contracts awarded on the basis of Shopping. All other contracts would be subject to post review on a sample basis.
- c. Consultant services would involve the prior review of (a) contracts greater than US\$100,000 equivalent for consultant services provided by firms, and (b) selected contracts for individual consultants (on an exceptional basis and based on a specific request from the TTL and indicated in the procurement plan). All other procurement of consultant services would be subject to post review on a sample basis.
- d. All the prior review contracts would be stated in the Procurement Plan.

Attachment 1 to Annex 8

Details of the Procurement Arrangements involving international competition

Goods and Works

(a) List of contract Packages which would be procured following ICB:

Ref. No.	Contract Description	Estimated Cost (USD'000)	Procurement Method	Bank's Review	Expected Contract Signature
G.01	Road Construction & Maintenance Equipment	1,790	ICB Goods	Prior	1st Quarter 2009
G.04	16 vehicles (12 4WD + 4 ten seater)	465	ICB Goods	Prior	Q1 2009
W.01	provincial access roads – Hoskins (30 km)	1,300	ICB Works	Prior	Q2 2009
W.02	provincial access roads - Hoskins (40 km)	1,760	ICB Works	Prior	Q4 2009
W.03	provincial access roads- Bialla (25 km)	960	ICB Works	Prior	Q4 2009
W.04	provincial access roads- Bialla (35 km)	1,350	ICB Works	Prior	Q4 2009
W.05	provincial access roads – Oro (40 km)	1,370	ICB Works	Prior	Q2 2009
W.06	provincial access roads – Oro (44 km)	1,520	ICB Works	Prior	Q4 2009

Consulting Services

(a) List of Consulting Assignments with short-lists of international firms

Ref. No.	Description of Assignment	Estimated Cost (US\$'000)	Selection Method	Bank's Review (Prior /Post)	Expected Date for Contract Signature
CF.01	Road Construction & Maintenance Supervision	1,705	LCS	Prior	Q3 2008
CF.02	Management Services for Community Development Implementation	1,720	QBS	Prior	Q3 2008
CF.03	Audit of Project Accounts	255	LCS	Prior	Q3 2008
CF.04	Environmental & Social Audit	260	QCBS	Prior	Q4 2008

Annex 9: Economic and Financial Analysis
PAPUA NEW GUINEA: Smallholder Agriculture Development Project

A. Financial Analysis

1. A financial analysis of smallholder oil palm was carried out for each scheme (Hoskins, Bialla and Oro) based on a two-hectare oil palm in-fill planting model.

Smallholder Model Assumptions

2. Tables 1 and 2 present a summary of the smallholder oil palm new planting two hectare physical and financial models respectively. The models are based on physical input/output coefficients provided by OPIC and PNGOPRA. While there are some physical differences in terms of soil productivity and some difference in input use among the three schemes, the differences were thought not to be significant and that, with the exception of oil palm yields, one physical model could be used to describe all three schemes.

3. **Smallholder oil palm yields.** Table 3 and the accompanying graph presents the fresh fruit bunch (FFB) yield profiles for: (i) current Hoskins Estate (New Britain Palm Oil Limited) FFB yields (25 tons/ha average), (ii) current Hoskins smallholder FFB yields (15.8 tons/ha average), (iii) With Project Hoskins smallholder FFB yield (18.4 tons/ha average), and (iv) With Project Bialla and Oro smallholder FFB yields (17.0 tons/ha average). Although there are slight differences in soil productivity and geographic location, the main difference between the With Project smallholder yields in Hoskins and Bialla/Oro is socio-economic (to meet obligations, Hoskins smallholders are more likely to use better management practices and harvest more of their block). Yields used in the models are based on good management practices using high quality seedlings procured from the palm oil milling companies and planted to OPIC specifications but can be said to be conservative.

4. **Material inputs.** Oil palm yields are based on moderate fertilizer use levels and are lower than PNGOPRA optimum recommended levels and lower than what the estates use. The fertilizer levels used in the models (2kg/palm/year) are levels likely to be used by smallholders given their past history and given the effect of the productivity enhancement extension program of the project. Other inputs are based on field surveys by OPIC. Material costs (fertilizers and equipment) are priced at the farm gate.

5. **Labor.** Labor costs are included for land clearing and planting (establishment), and for maintenance up to the end of the 23 year period of the economic life of the oil palms. The cost of labor is set at K5.5/day which is the government local minimum wage rate for unskilled labor. Local labor markets are not highly developed and the unemployment rate is very high. Key informants indicate that the actual local cash labor rate can vary a small amount above or below the official minimum wage rate although the actual cash wage rate paid may be masked by in-kind contributions or family obligations.

6. **Income from gardening around immature palms.** Smallholders usually plant garden (food) crops around the immature palms for the first four years before the palms grow. The production is either sold or used for domestic consumption and a net income from the gardening activity is included in the model.

7. **Foregone income.** For the hectares that would be newly planted (through in-filling), the foregone net income from alternative use (usually agricultural) is also included in the model. The income is usually from food crops but produced with low input levels and only a small proportion of the available land in the two hectare plot is utilized. However, a good proportion of the total land for in-fill planting under the project is not being used by smallholders for any economic activity.

8. **Crude Palm Oil price forecast.** The World Bank price projections for crude palm oil (CPO) in 2008 (the start of the project) is US\$410/ton in 2006 constant dollars. The 2010 and 2015 CPO price projections are US\$405/ton and US\$412/ton respectively in constant 2006 dollars.⁴⁴ The average 2005 CIF crude CPO price is US\$421 basis Rotterdam as calculated from the monthly CPO prices used to calculate the smallholder farmgate FFB price. This is equivalent to about US\$411/ton in 2006 constant dollars - a CPO price of US\$410/ton, (2006 constant dollars) would be adopted as the basis from which the farmgate FFB financial and economic prices will be calculated for use in the farm financial models and in the economic analysis. Although recent vegetable oil price trends show a slight decline, the projected demand for ethanol and bio-diesel should strengthen long-term vegetable oil prices including palm oil prices.⁴⁵ Thus a US\$410/ton CPO price (2006 constant dollars) may be conservative.

9. **Derivation of FFB financial price.** Smallholders sell their oil palm in terms of a “Fresh Fruit Bunch” (FFB) after harvest at the side of the road. The palm oil milling company picks up the FFB, weighs it on the spot, and delivers it to the mill. The smallholder FFB is priced at the mill gate according to an agreed oil palm FFB price formula.⁴⁶ The calculation is done on a monthly basis. A mill gate FOB value per ton of FFB is first derived. This is done by converting the US\$ CIF crude palm oil (CPO) price and the US\$ CIF crude palm kernel oil (PKO) price basis Rotterdam into an FOB value per ton of FFB in terms of PNG Kina⁴⁷ by subtracting the appropriate transport and other costs, applying mill oil extraction rates specific to each mill, and applying the prevailing exchange rate. The FOB value per ton of FFB may differ among the mills because of a difference in transport costs and a difference in oil extraction rates.

10. The smallholder mill gate price is then calculated as 57% of the total FOB value per ton of FFB price as prescribed by the oil palm FFB price formula plus 1% VAT. To arrive at the final farmgate FFB financial price, deductions are then made for (i) the FFB transport costs from the farm gate to the mill (which differ by mill), (ii) a PNGOPRA levy, (iii) an OPIC levy (plus 10% VAT), and (iv) a Sexava levy.

11. Table 4 presents the FOB Kina value per ton of FFB calculation based on a CPO price of US\$410 (as discussed above). For the project, a provincial access road maintenance levy per ton FFB would also be introduced. The total road maintenance levy is calculated as the average total cost of annual road maintenance divided by the average annual FFB production for each scheme location. Smallholders would pay one-quarter of the levy and preliminary estimates indicate that

⁴⁴ World Bank, Development Prospects Group, February, 2006. The prices are basis CIF N.W. Europe. There are no price projections for PKO or PKE, however, CPO makes up about 80% of the oil extracted from FFB.

⁴⁵ Monsanto predicts that within 10 years, 35% of the USA corn crop will be used to make ethanol substantially increasing long-term corn prices (Citigroup Industry Note, October, 2006: www.citigroupgeo.com).

⁴⁶ Burnett, D., and D. Ellingson. 2001. Review of the Oil Palm Fresh Fruit Bunch Formula, Natural Resources Institute and ADS (PNG) Ltd., University of Greenwich, Chatham Maritime, UK. National Agricultural Research Institute Report No. 2666.

⁴⁷ Some mills also include the extraction rates and price for Palm Kernel Expeller oil (PKE), basis Australia in the formula.

Hoskins and Bialla smallholders would pay a levy of K5/ton FFB and Oro smallholders would pay K6/ton FFB.

Financial Rate of Return (FRR)

12. The financial rates of return to smallholders is robust and in-filling represents a very good investment for smallholders. For new planting hectares the FRR for smallholders in Hoskins, Bialla, and Oro are 27%, 24% and 22% respectively (Table 2) and represent higher rates of return than any alternative smallholder investment opportunities. The differences in FRR among the three schemes, is the difference in the oil palm yield and oil palm price. The rates of return are substantial and reflect that costs of production are very low once the oil palm has been established relative to the high yields and returns over the 23 year period.

Net Income, Return to Labor and Establishment Cost Repayment

13. As most smallholders use their own family labor, the cash outlays for oil palm would mainly be for material costs. The net income from oil palm and from gardening around the immature oil palms excluding labor costs is negative in the first (planting) year (Table 2) because of the high material costs (mainly seedlings and equipment). Once established, smallholder oil palm net incomes (excluding labor) average (over the three schemes) K1,800/2 ha (US\$643) in years 4 to 10 and K5,000/ 2 ha (US\$1,785) in years 11 to 23 of production. This represents a substantial return to labor and equates to an average return over the entire production period of about K90/day (US\$32/day) worked (before debt service) in contrast to the K5.5 (US\$1.96/day) minimum wage.

14. Under the project, smallholders can borrow up to K1,900/ha (US\$678) for seedlings, seedling transport, fertilizer, and small tools for oil palm establishment. A cash flow analysis conducted for OPIC⁴⁸ indicates that a loan of K1,900 at 8% interest, with a grace period of 3 years, would take 7 years of monthly repayments to clear the debt with repayments set at 30% of the monthly payment amounts due the grower for FFB sold to the mill. The cash flow analysis indicates that servicing the debt is well within the means of smallholders and allows sufficient cash flow after debt repayment for their livelihood requirements and other obligations.

Sensitivity Analysis

15. The main parameters that would most affect the FRR are: (a) oil palm yield, (b) palm oil price, (c) material costs, especially fertilizer, and (d) the labor wage rate. The following are the results from a sensitivity analysis of the new planting two hectare financial model:

- 1) a decrease in smallholder oil palm yield by 10% would decrease the FRR to around 24%, 22% and 20% for Hoskins, Bialla and Oro respectively and decrease the average return to labor over the entire production period from K90/day (US\$32/day) to K80/day (US\$28/day). A decrease in smallholder oil palm yield by 30% would decrease the FRR to around 19%, 17% and 15% for Hoskins, Bialla and Oro respectively and decrease the average return to labor over the entire production period from K90/day (US\$32/day) to K60/day (US\$21/day);

⁴⁸ Credit Component and Financial Analysis. Papua New Guinea Proposed Smallholder Agriculture Development Project, prepared for OPIC by W. Cuddihy, November 2006.

- 2) a decrease in oil palm price by 10% would decrease the FRR to around 23%, 21% and 19% for Hoskins, Bialla and Oro respectively. A decrease in oil palm price by 20% would decrease the FRR to around 19%, 17% and 15% for Hoskins, Bialla and Oro respectively;
- 3) a doubling of the fertilizer price would decrease the FRR for Hoskins, Bialla and Oro to 23%, 21% and 19% respectively. A doubling of the labor wage rate to K11/day would decrease the FRR for Hoskins, Bialla and Oro to 22%, 20% and 18% respectively; and
- 4) a 10% decrease in palm oil price, a 10% decrease in palm oil yield, and a 50% increase in both the labor wage rate and fertilizer price would decrease the FRR for Hoskins, Bialla and Oro to 17%, 15% and 13% respectively and decrease the average return to labor over the entire production period from K90/day (US\$32/day) to K68/day (US\$24/day).

16. The sensitivity analysis results indicate that the FRRs are robust and that the net incomes and return to labor are not overly sensitive to moderate changes in the four parameters tested.

B. Economic Analysis

17. An economic analysis is presented for each oil palm scheme (Hoskins, Bialla and Oro) and for the three oil palm schemes as a whole. The cost and possible benefit streams from the capacity development of the communities as described in Component 2 is not taken into account in the economic analysis.

Economic FFB Price, Benefit and Cost Assumptions

18. **Derivation of project FFB economic price.** The FFB economic price (Table 4) is calculated by adding the 1% VAT on the value per ton of FFB and the 10% VAT on the OPIC levy back to the financial price. There are no other subsidies or taxes in the system pertaining to calculating the FFB price.⁴⁹ The road maintenance levy is also added back into the price as the road maintenance costs are put into the economic analysis as actual total network maintenance costs.

19. **Project benefits.** The incremental project economic benefits come from: (a) planting of new oil palm hectares through in-filling, (b) increased FFB collection from existing oil palm stands, (c) savings on the FFB mill collection fleet, and (d) the harvesting in Oro scheme of 1,982 ha planted in 2001 plus potential in-filling made available by constructing 105 km of roads under the project that failed to be constructed under the AusAID funded – PNG Incentive Fund.

20. Under the project, 8,740 ha of new planting would be undertaken: Hoskins (3,500 ha), Bialla (1,240 ha) and Oro (3,000 ha original plus 1,000 ha due to constructing the 105 km of road). The yearly net benefits from a two hectare economic model are multiplied by the yearly in-fill plantings in each scheme to arrive at total net benefits from in-filling (see Tables 5, 6 and 7). The two hectare financial in-fill model was modified to obtain an economic two hectare model for the economic analysis by: (a) adjusting material costs to reflect border prices by using a conversion factor (CF) of 90%, and (b) using the FFB economic prices as presented in Table 4. The economic value for labor was assumed to be the same as the financial labor wage rate as the

⁴⁹ There is no way of knowing what the financial or economic FFB price would be in a free market without the FFB price formula. All actual costs are accounted for in the derivation of the economic FFB price with the only anomaly being that smallholders get 57% of the FOB FFB value. Discussions with industry people suggest that the free market smallholder FOB FFB price would be, in most instances, close to a price that was calculated using the 57% payout ratio.

local labor markets are not highly developed and there appear to be no significant market distortions to the wage rate despite the official minimum wage.

21. There would be an increase in FFB collection from existing oil palm stands because of: (a) better provincial access road networks through reconstruction and maintenance, and (b) increased productivity from productivity enhancement extension activities and increase in OPIC capacity. Increased productivity would mainly come from better management (increase in existing fertilizer use levels) and improved harvesting practices (harvesting of full blocks). An assumption is made that the FFB collection can be increased by 2.7 tons/ha in each scheme.⁵⁰ Given 20,000, 10,000, and 9,000 smallholder hectares in the Hoskins, Bialla and Oro schemes respectively, this amounts to an additional FFB collection of 54,000, 27,000 and 24,500 tons / annum.

22. There would be sizable savings on the FFB mill collection fleet maintenance and depreciation costs once the roads are reconstructed and properly maintained. This saving has been calculated based on an eventual 25% reduction in the costs of annual fleet repair. The savings increase throughout the project period as more roads are reconstructed and maintained culminating in eventual savings of K1.1m, K0.47m and K0.43m per year for Hoskins, Bialla and Oro respectively. The savings are likely to be underestimated as savings in fuel and travel time have not been accounted for.

23. The net benefits from the harvesting in Oro scheme of 1,982 ha planted in 2001 made available by constructing 105 km of roads is taken into account. Harvested hectares increase as the roads are constructed with the first harvest year being year 7 after planting as planting took place around 2001.

24. **Project costs.** The project costs are based on those reported in the project COSTAB file (base costs without tax – a 3.5% physical contingency cost is added for road reconstruction). Project costs for each scheme include: (a) reconstruction costs of provincial minor and major access roads and bridges, (b) routine and non-routine provincial access road maintenance costs, (c) the seed capital for the road maintenance fund, (d) project management costs, (e) OPIC extension service costs, (f) road contract management and supervision costs, (g) smallholder sector support and environmental monitoring, and (h) other (HIV/AIDS, FFB formula review, policy studies).⁵¹ Where project costs are not scheme specific, 1/3 of the costs are allocated to each scheme. Road maintenance costs are incremental netting out what the mills spend (and would continue to spend in the absence of the project) on provincial access road maintenance. The incremental road operation and maintenance costs are treated as recurrent costs and carried over 23 years (the economic life of the palms). Other recurrent costs carried on over the 23 years include (a) extension services and (b) road contract management and supervision (OPID). Given that road and bridge construction and the O&M of the roads would also benefit non oil palm and palm oil industry economic and social activities, 80% of project road and bridge construction and equipment costs and incremental road maintenance costs are applied to the economic analysis.⁵²

⁵⁰ The increment of 2.7 tons FFB/ha is the same as the increment between existing smallholder average production and the anticipated production forthcoming from the smallholder in-fill hectares (see Table 3 in this Annex). It is anticipated that the increment in the collection from existing oil palm stands would at be at least equal to the 2.7 tons FFB/ha increment in new planting hectares and is likely underestimated and therefore a conservative figure.

⁵¹ Project costs associated with smallholder in-filling are taken into account through the 2 ha economic model.

⁵² The identification of non oil palm and palm oil industry economic and social benefits from provincial access roads and bridge construction and road maintenance is problematic thus a second best solution, as is done here, is to decrease the road and bridge construction and road maintenance cost allocation.

25. Tables 5, 6 and 7 present the incremental net benefits, project costs and the economic rate of return for Hoskins, Bialla, and Oro schemes respectively for the project. The number of hectares of new planting and replanting are given by project year by scheme in each of the tables. Table 8 presents the incremental net benefits and the economic rate of return for the overall project.

Economic Rate of Return (ERR)

26. The Project is a very good investment for PNG and its people. The ERR for Hoskins, Bialla and Oro are 18.3%, 13.2%, and 17.2% respectively. The overall project ERR is 16.7%. The Net Present Values (NPV) for Hoskins, Bialla and Oro are US\$5.6m, US\$0.6m, and US\$4.7m respectively (US\$11.0m overall).⁵³ Few alternative investments exist in rural PNG that have a higher rate of return. Smallholders who participate in the Project would on average inject K10 million (US\$3.6m) annually into the economy in years 4 to 10 of production and K25 million (US\$8.9m) annually in years 11 to 23 of production stimulating the local and national economy.

27. Furthermore, Component 2 community development activities would increase local infrastructure, increase social accountability, and improve local governance which are all conducive to increasing the local economic and social climate leading to an increase in economic activity that would have an impact on the local economy. The reconstruction and sustainable maintenance of the provincial access road system would not only benefit the oil palm industry but also benefit the rural economy and the quality of life in rural communities.

Sensitivity and Switching Value Analysis

28. The main parameters that would affect the ERR are: (a) oil palm yield, (b) palm oil price, (c) material costs, especially fertilizer, and (d) the labor wage rate. The following are the results from a sensitivity and switching value⁵⁴ analysis comparing changes to the base ERR values:

- 1) a decrease in oil palm yield by 10% would decrease the ERR to around 17.4%, 12.6% and, 15.5% for Hoskins, Bialla and Oro respectively and to about 15.6% for the total project. The switching values are about 20%, 28% and over 50% for Bialla, Oro and Hoskins respectively, and about 35% for the project;
- 2) a decrease in palm oil price by 10% over each of the 23 years would decrease the ERR to around 14.9% and 13.8% for Hoskins and Oro respectively, just under 11% for Bialla, and to 13.4% for the project. The switching value for Hoskins is just below a 20% decrease in the oil palm price, 15% decrease for Oro, 5% for Bialla, and about 15% for the project;
- 3) a doubling of the fertilizer price or the labor wage rate to K11/day has little effect on the ERR. The switching value for Hoskins is a labor wage rate of about five times the current wage rate; and

⁵³ The rates of return and NPVs are higher for Hoskins and Oro than Bialla, largely because of the in-fill hectare/road reconstruction ratio. The ratio is 19.4 and 22.2 in-fill hectares to one km of road reconstruction for Hoskins and Oro whereas it is 12.8 for Bialla (the Oro ratio includes the 1,982 ha).

⁵⁴ A switching value is that value at which the NPV is equal to zero for a change in one or more model parameters (i.e., prices, yields, labor wage rates). At the point where NPV = 0, the project becomes nonviable and not a good investment.

- 4) a decrease in oil palm yield by 10% and a decrease in palm oil price by 10% over each of the 23 years would decrease the ERR to around 14.0%, and 12.0% for Hoskins and Oro respectively, and just under 10% for Bialla and to 12.3% for the project.

29. The overall project ERR is not sensitive to large changes in the fertilizer price or the labor wage rate. Nor are the schemes ERR (with the exception of Bialla) or the overall project ERR overly sensitive to moderate changes in oil palm yields and palm oil FFB prices. Moreover, most estimates and assumptions used in the models and in the analysis have been conservative.⁵⁵ The ERR results indicate that the project would be a good investment for PNG.

Fiscal Impact and Cost Recovery

30. **Fiscal Impact.** Although the government would contribute a 50% share of the annual provincial access road O&M costs, this would be offset by increased Government annual revenues from the increase in smallholder FFB production and the resulting economic activity and from the increase in duties and taxes from the increase in palm oil production and export that would result from Project activities.

31. **Cost Recovery.** Of the US\$68.8 million costs (including contingencies), US\$19.2 million (28%) would be recovered from smallholders and the palm oil milling companies. The smallholder oil palm growers would assume all costs associated with new planting programs, which amounts to US\$7.8 million. Of the total road O&M costs, smallholders would pay US\$5.3 million each through the access road maintenance levy established under the project. About US\$0.7 million would be recovered from smallholders and the palm oil milling companies for road contract management and supervision and extension services (through existing levies).

⁵⁵ Allocation of 80% of all project road reconstruction and maintenance costs against project benefits is conservative as the provincial access roads are used significantly more for public transport and non-oil palm activities than for oil palm activities (FFB collection is only once each fortnight). Assuming that 50% of all project road reconstruction and maintenance costs are allocated against project benefits, the ERR would be 26.7%, 20.8% and 23.7 % for Hoskins, Bialla, and Oro respectively and 24.1% for the project.

Table 2. Smallholder Oil Palm New Planting Two Hectare Financial Model

(In-Fill Planting Financial Model)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
Yield Profile Hoskins	0.0	0.0	0.0	3.2	5.4	7.5	9.6	11.7	13.8	16.0	18.1	20.3	22.3	23.5	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
Yield Profile Bialla & Oro	0.0	0.0	0.0	3.2	4.8	6.7	8.5	10.3	12.2	14.0	15.8	17.7	19.5	21.3	22.5	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0
LABOUR COSTS/2 ha (5.5 Kina/day)	473	302.5	198	97.9	116.1	133.375	150.7	168.03	185.35	203.5	220.83	239	255.48	265.375	269.5	269.5	269.5	269.5	269.5	269.5	269.5	269.5	269.5	269.5
Land clearing	99	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
survey	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
underbrush	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
chainsaw supervision	55	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
cleaning and stacking	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Planting Phase	77	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
cover crop	5.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
stick lining	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
hole digging /planting	55	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
fertilizing	5.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Maintenance	297	302.5	198	97.9	116.05	133.375	150.7	168.03	185.35	203.5	220.825	238.98	255.475	265.375	269.5	269.5	269.5	269.5	269.5	269.5	269.5	269.5	269.5	269.5
ring weeding	132	132	132	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
interrow weeding	165	110	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55
fertilizing	0	5.5	11	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5
harvesting paths	0	5.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
harvesting	0	0	0	26.4	44.55	61.875	79.2	96.525	113.85	132	149.325	167.48	183.975	193.875	198	198	198	198	198	198	198	198	198	198
MATERIAL COSTS/2 ha	3165	177	468.5	231	271	231	231	384	523.5	231	234	271	231	296.5	436	481	234	271	233.5	234	271	231	231	481
chainsaw hire per day	240	0	180	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
cover crop seed per kilo	16	192	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
seedlings each	8	1920	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
seedling transport each	1.5	360	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
fertilizer per kg	0.9	108	162	216	216	216	216	216	216	216	216	216	216	216	216	216	216	216	216	216	216	216	216	216
bushhoives each	22	0	22	0	0	22	0	0	22	0	0	22	0	0	22	0	0	22	0	0	0	22	0	0
grassknives each	18	0	18	0	0	18	0	0	18	0	0	18	0	0	18	0	0	18	0	0	0	18	0	0
files each	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
spade each	40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
chisel 4" each	15	0	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
sharpening stone each	2.5	0	2.5	0	0	0	0	0	2.5	0	0	0	0	2.5	0	0	0	0	0	0	0	0	0	0
sickle each	23	0	0	0	0	0	0	0	23	0	0	0	0	23	0	0	0	0	0	0	0	0	0	0
harvest pole each	130	0	0	0	0	0	0	0	130	0	0	0	0	130	0	0	0	0	0	0	0	0	0	0
harvest pole each	165	0	0	0	0	0	0	0	165	0	0	0	0	165	0	0	0	0	0	0	0	0	0	0
wheelbarrow each	250	0	0	0	0	0	0	0	250	0	0	0	0	250	0	0	0	0	0	0	0	0	0	0
Financial Farm Gate Price (FFB/tonne)	122.2	122.2	122.2	122.2	122.2	122.2	122.2	122.2	122.2	122.2	122.2	122.2	122.2	122.2	122.2	122.2	122.2	122.2	122.2	122.2	122.2	122.2	122.2	122.2
Hoskins:	123.3	123.3	123.3	123.3	123.3	123.3	123.3	123.3	123.3	123.3	123.3	123.3	123.3	123.3	123.3	123.3	123.3	123.3	123.3	123.3	123.3	123.3	123.3	123.3
Bialla:	113.4	113.4	113.4	113.4	113.4	113.4	113.4	113.4	113.4	113.4	113.4	113.4	113.4	113.4	113.4	113.4	113.4	113.4	113.4	113.4	113.4	113.4	113.4	113.4
Oro:	3638	480	667	329	347	404	382	552	709	435	475	510	486	522	706	751	524	541	503	524	541	501	571	501
TOTAL COST (Labour and Materials)	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Net Income from Gardening Around Immature Palms c/	1,000	2000	2000	1000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Forgone Net Income from Alternative Use (Agriculture Production)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Incremental Net Income from Oil Palm and Gardening and FRR a /																								
Hoskins: (2 hectare Block)	-3638	521	334	453	-28	428	964	1307	1663	2475	2948	3450	3963	4221	4159	4114	4341	4324	4362	4341	4324	4364	4364	4364
Bialla: (2 hectare Block)	-3638	521	334	460	-164	247	714	987	1299	2017	2421	2854	3321	3729	3842	3920	4147	4130	4167	4147	4130	4170	3920	3920
Oro: (2 hectare Block)	-3638	521	334	397	-259	115	545	783	1057	1740	2107	2503	2935	3307	3396	3464	3691	3674	3711	3691	3674	3714	3464	3464
Net Income/2 ha from Oil Palm Excluding Labour Costs																								
Hoskins:	-3165	-177	-469	551	1089	1562	2115	2475	2849	3679	4169	4689	5218	5486	5429	5384	5611	5594	5631	5611	5594	5634	5384	5384
Bialla:	-3165	-177	-469	558	952	1381	1865	2155	2484	3221	3641	4093	4577	4995	5111	5189	5416	5399	5437	5416	5399	5439	5189	5189
Oro:	-3165	-177	-469	494	857	1248	1696	1951	2242	2943	3328	3742	4190	4573	4665	4733	4960	4943	4981	4960	4943	4983	4733	4733
ar (Yield x Oil Palm Price) - Total Labour and Material Costs + Net Income from Gardening - Foregone income from Gardening																								

Table 3. FFB Yield Profiles (tons FFB/Ha)

Planting Year	Current Hoskins Scheme FFB Yield		Smallholder With Project FFB Yield	
	NBPOL	Smallholders	Hoskins	Bialla/Oro
1				
2	1	0.0	0.0	0.0
3	5	2.8	3.2	3.2
4	10.9	4.8	5.4	4.8
5	18.6	6.0	7.5	6.7
6	23.3	7.6	9.6	8.5
7	25.4	9.2	11.7	10.3
8	26.3	10.8	13.8	12.2
9	26.3	12.4	16.0	14.0
10	26.3	14.0	18.1	15.8
11	26.3	15.6	20.3	17.7
12	26.3	17.2	22.3	19.5
13	26.3	18.8	23.5	21.3
14	26.3	20.4	24.0	22.5
15	26.3	21.5	24.0	23.0
16	26.3	22.0	24.0	23.0
17	26.3	22.0	24.0	23.0
18	26.3	22.0	24.0	23.0
19	26.3	22.0	24.0	23.0
20	26.3	22.0	24.0	23.0
21	26.3	22.0	24.0	23.0
22	26.3	22.0	24.0	23.0
23	26.3	22.0	24.0	23.0
Avg 4 to 23	25.0	15.8	18.4	17.0

Source: OPRA and OPIC.

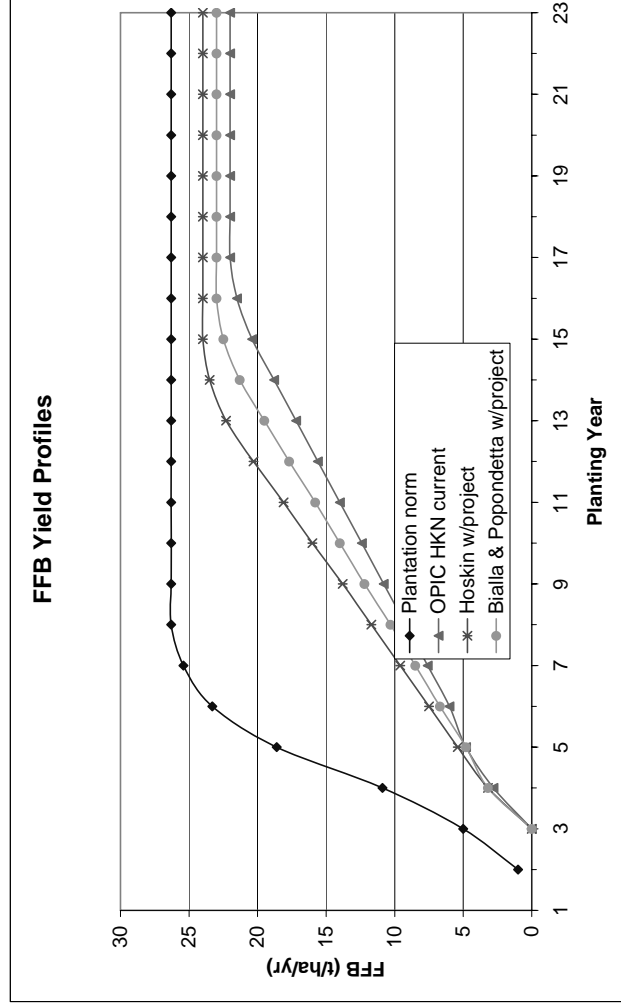


Table 4. Smallholder Farmgate Financial and Economic FFB Price Calculation

(In PNG Kina/tonne)	NBPOL (Hoskins)	HOPL (Bialla)	HOP (Oro)
1. FOB Kina Value per Tonne of FFB (Forecast) a/	285.0	287.0	274.0
2. Farmers Pay Out Ratio at 57 %	162.5	163.6	156.2
3. VAT 1 % Component	1.7	1.7	1.6
4. Mill Farmgate FFB Price (2+3)	164.1	165.3	157.8
5. FFB Transport Costs	28.3	28.3	31.3
6. OPRA Levy	1.77	1.77	1.77
7. OPIC Levy	4.0	4.0	4.0
8. Sexava Levy	2.5	2.5	1.0
9. VAT on OPIC (10%)	0.4	0.4	0.4
10. Total Transport + Levy Costs (5+6+7+8+9)	36.9	37.0	38.4
<u>Financial Farmgate FFB Price</u>			
11 .Road Maintenance Levy (Initial years) b/	5.0	5.0	6.0
11. Farmgate Price (4-10-11)	122.2	123.3	113.4
<u>Economic Farmgate FFB Price c/</u>			
12. Economic Price (RML initial years) c/ (12+3+9+11)	129.2	130.3	121.4

Source: Monthly FFB pricing formula calculations from NBPOL, HOPL and HOP.

a/ Conversion of US\$ CIF CPO price and US\$ CIF PKO price basis Rotterdam into an FOB value per tonne of FFB in terms of PNG Kina by subtracting the appropriate transport and other costs, applying mill oil extraction rates specific to each mill, and applying the prevailing exchange rate. Based on a CIF CPO price basis Rotterdam of US\$410/tonne.

b/ Annual maintenance costs divided by tonnes of FFB produced in each mill location.

c/ Farmgate price plus 1% VAT plus OPIC levy VAT plus Road Maintenance Levy (road maintenance costs are put in the economic analysis as actual total network road maintenance costs).

Table 5. Hoskins: Project Economic Rate of Return Analysis

	PY 1	PY 2	PY 3	PY 4	PY 5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27				
(In Million Kina unless Specified in US\$)																															
HOSKINS:																															
A. Incremental Net Income From Project																															
1. New Oil Palm Planting Incremental Net Income																															
(a) Incremental Income From One ha (in Kina)	-1661	269	190	261	36	280	561	755	955	1362	1614	1881	2149	2288	2270	2250	2352	2344	2361	2352	2344	2362	2362	2250							
(b) Scheme Incremental Net Income (New Planting)																															
Ha New Planting																															
PY1	700	-1,16	0,19	0,13	0,18	0,02	0,20	0,39	0,53	0,67	0,95	1,13	1,32	1,50	1,60	1,59	1,57	1,65	1,64	1,65	1,65	1,64	1,65	1,65	1,57						
PY2	700		-1,16	0,19	0,13	0,18	0,02	0,20	0,39	0,53	0,67	0,95	1,13	1,32	1,50	1,60	1,59	1,57	1,65	1,64	1,65	1,65	1,64	1,65	1,65	1,57					
PY3	700			-1,16	0,19	0,13	0,18	0,02	0,20	0,39	0,53	0,67	0,95	1,13	1,32	1,50	1,60	1,59	1,57	1,65	1,64	1,65	1,65	1,64	1,65	1,65	1,57				
PY4	700				-1,16	0,19	0,13	0,18	0,02	0,20	0,39	0,53	0,67	0,95	1,13	1,32	1,50	1,60	1,59	1,57	1,65	1,64	1,65	1,65	1,64	1,65	1,65	1,57			
PY5	700					-1,16	0,19	0,13	0,18	0,02	0,20	0,39	0,53	0,67	0,95	1,13	1,32	1,50	1,60	1,59	1,57	1,65	1,64	1,65	1,65	1,64	1,65	1,65	1,57		
Total Scheme Incremental Net Income (New Planting)		-1,16	-0,97	-0,84	-0,66	-0,63	0,73	0,93	1,32	1,81	2,74	3,67	4,60	5,57	6,51	7,14	7,59	7,92	8,05	8,10	8,16	8,23	8,23	8,17	8,23	8,17	6,52	4,87	3,23	1,57	
2. Benefits From Increased FFB Collection a/																															
(a) Incremental FFB tonnes Collected (000'tonnes)	10	10	30	40	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	
(b) Net Benefits from Incremental FFB Collection	1,27	1,27	3,80	5,06	6,83	6,83	6,83	6,83	6,83	6,83	6,83	6,83	6,83	6,83	6,83	6,83	6,83	6,83	6,83	6,83	6,83	6,83	6,83	6,83	6,83	6,83	6,83	6,83	6,83	6,83	
3. Savings on FFB Collection Fleet (Million Kina) b/																															
	0,01	0,17	0,44	0,77	1,10	1,10	1,10	1,10	1,10	1,10	1,10	1,10	1,10	1,10	1,10	1,10	1,10	1,10	1,10	1,10	1,10	1,10	1,10	1,10	1,10	1,10	1,10	1,10	1,10	1,10	
4. Oil Palm Incremental Net Benefits (Millions of Kina)																															
	0,11	0,46	3,40	5,17	7,30	8,66	8,86	9,26	9,75	10,67	11,61	12,53	13,51	14,44	15,08	15,52	15,85	15,99	16,04	16,10	16,16	16,17	16,10	14,45	12,80	11,16	9,51				
5. Oil Palm Incremental Net Benefits (in 000'US\$)																															
	41	164	1213	1848	2608	3093	3166	3307	3481	3812	4145	4475	4824	5157	5385	5544	5661	5710	5728	5748	5772	5775	5751	5161	4573	3987	3396				
B. Project Scheme Incremental Costs																															
Total Hoskins Scheme Incremental Project Costs (US\$ '000)	2,374	3,078	3,233	3,253	2,827	1,373	1,373	1,373	1,373	1,373	1,373	1,373	1,373	1,373	1,373	1,373	1,373	1,373	1,373	1,373	1,373	1,373	1,373	1,373	1,373	1,373	1,373	1,373	1,373	1,373	1,373
C. Total Scheme Incremental Net Benefits (in 000'US\$)																															
	-2333	-2915	-2019	-1405	-220	1719	1792	1934	2107	2439	2772	3102	3451	3784	4011	4170	4288	4336	4355	4375	4399	4401	4378	3787	3199	2613	2023				
D. Economic Rate of Return (ERR)																															
E. Net Present Value in 000' US\$ (NPV @ 12%)	18,3%																														
Exchange Rate	5629																														
	2,8																														

a/ Incremental FFB will be collected from existing oil palm stands because: (1) better provincial access road network and (2) increased productivity from productivity enhancement through Extension activities. Calculated as 2,7 tonnes/ha increase x existing Smallholder ha of 20,000 (avg over project) x FFB price/tonne minus incremental fertilizer cost (K49/ha incremental fertilizer cost/ average 18,4 tonnes/ha).

b/ Lower collection costs on smallholder FFB due to decreased repair and depreciation costs to trucks because of improved provincial access road system.

Table 6. Bialla: Project Economic Rate of Return Analysis

	PY1	PY2	PY3	PY4	PY5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27				
(in Million Kina unless Specified in US\$)																															
BIALLA:																															
A. Incremental Net Income From Project																															
1. New Oil Palm Planting Incremental Net Income																															
(a) Incremental Income From One ha (in Kina)	-1661	269	190	264	-36	185	429	586	762	1119	1335	1566	1810	2028	2102	2147	2249	2241	2258	2249	2241	2259	2147								
(b) Scheme Incremental Net Income (New Planting)																															
Ha New Planting																															
PY1	400	-0.66	0.11	0.08	0.11	-0.01	0.07	0.17	0.23	0.30	0.45	0.53	0.63	0.72	0.81	0.84	0.86	0.90	0.90	0.90	0.90	0.90	0.90	0.86							
PY2	400	-0.66	0.11	0.08	0.11	-0.01	0.07	0.17	0.23	0.30	0.45	0.53	0.63	0.72	0.81	0.84	0.86	0.90	0.90	0.90	0.90	0.90	0.90	0.86							
PY3	400	-0.66	0.11	0.08	0.11	-0.01	0.07	0.17	0.23	0.30	0.45	0.53	0.63	0.72	0.81	0.84	0.86	0.90	0.90	0.90	0.90	0.90	0.90	0.86							
PY4	40																														
PY5	0																														
Total Scheme Incremental Net Income (New Planting)	-0.66	-0.56	-0.48	0.22	0.18	0.17	0.24	0.48	0.72	1.00	1.31	1.64	1.93	2.21	2.44	2.58	2.68	2.74	2.79	2.79	2.79	2.79	2.79	2.75	1.85	0.95	0.09	0.00	0.00		
2. Benefits From Increased FFB Collection a/																															
(a) Incremental FFB tonnes Collected (000'tonnes)	10	18	25	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	
(b) Net Benefits from Incremental FFB Collection	1.28	2.30	3.19	3.44	3.44	3.44	3.44	3.44	3.44	3.44	3.44	3.44	3.44	3.44	3.44	3.44	3.44	3.44	3.44	3.44	3.44	3.44	3.44	3.44	3.44	3.44	3.44	3.44	3.44	3.44	
3. Savings on FFB Collection Fleet (million Kina) b/																															
	0.006	0.071	0.189	0.33	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	
4. Oil Palm Incremental Net Benefits (in Millions of Kina)																															
	0.62	1.81	2.90	4.00	4.09	4.09	4.15	4.39	4.63	4.92	5.22	5.55	5.84	6.13	6.35	6.50	6.59	6.65	6.70	6.70	6.70	6.70	6.66	5.77	4.86	4.00	3.91				
5. Oil Palm Incremental Net Benefits (in 000'US\$)																															
	220	646	1035	1427	1461	1459	1484	1568	1654	1756	1865	1983	2087	2189	2269	2320	2355	2376	2392	2394	2394	2394	2394	2379	2059	1737	1428	1398			
B. Project Scheme Costs																															
Total Bialla Scheme Project Costs (US\$)	3146	2161	2482	1293	929	701	701	701	701	701	701	701	701	701	701	701	701	701	701	701	701	701	701	701	701	701	701	701	701	701	
C. Total Scheme Incremental Net Benefits (in 000'US\$)																															
	-2926	-1514	-1447	135	533	758	783	867	953	1055	1164	1282	1386	1488	1568	1619	1654	1675	1691	1693	1693	1693	1678	1358	1036	727	697				
D. Economic Rate of Return (ERR)																															
E. Net Present Value in 000' US\$ (NPV @ 12%)	13.2%	586																													
Exchange Rate	2.8																														

a/ Incremental FFB will be collected from existing oil palm stands because: (1) better access road network and (2) increased productivity from productivity enhancement through Extension activities.
 Calculated as 2.7 tonnes/ha increase x existing Smallholder ha of 10,000 (avg over project) x FFB price/tonne minus incremental fertilizer cost (K49/ha incremental fertilizer cost/ average 17.0 tonnes/ha).

b/ Lower collection costs on smallholder FFB due to decreased repair and depreciation costs to trucks because of improved provincial access road system.

Table 7. Oro: Project Economic Rate of Return Analysis

(in Million Kina unless Specified in US\$)	PY 1	PY 2	PY 3	PY 4	PY 5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
ORO:																											
A. Incremental Net Income From Project																											
1. New Oil Palm Planting Incremental Net Income																											
(a) Incremental Income from From One ha (in Kina)	-1661	269	190	235	-79	124	352	493	652	993	1193	1407	1635	1837	1900	1940	2042	2035	2051	2042	2035	2053	1940				
(b) Scheme Incremental Net Income (New Planting)																											
Ha New Planting	800	-1.33	0.22	0.15	0.19	-0.06	0.10	0.28	0.39	0.52	0.79	0.95	1.13	1.31	1.47	1.52	1.55	1.63	1.63	1.64	1.63	1.63	1.64	1.55			
PY1	800	-1.33	0.22	0.15	0.19	-0.06	0.10	0.28	0.39	0.52	0.79	0.95	1.13	1.31	1.47	1.52	1.55	1.63	1.63	1.64	1.63	1.63	1.64	1.55			
PY2	800	-1.33	0.22	0.15	0.19	-0.06	0.10	0.28	0.39	0.52	0.79	0.95	1.13	1.31	1.47	1.52	1.55	1.63	1.63	1.64	1.63	1.63	1.64	1.55			
PY3	800	-1.33	0.22	0.15	0.19	-0.06	0.10	0.28	0.39	0.52	0.79	0.95	1.13	1.31	1.47	1.52	1.55	1.63	1.63	1.64	1.63	1.63	1.64	1.55			
PY4	800	-1.33	0.22	0.15	0.19	-0.06	0.10	0.28	0.39	0.52	0.79	0.95	1.13	1.31	1.47	1.52	1.55	1.63	1.63	1.64	1.63	1.63	1.64	1.55			
PY5	800	-1.33	0.22	0.15	0.19	-0.06	0.10	0.28	0.39	0.52	0.79	0.95	1.13	1.31	1.47	1.52	1.55	1.63	1.63	1.64	1.63	1.63	1.64	1.55			
Total Scheme Incremental Net Income (New Planting)	-1.33	-1.11	-0.96	-0.77	-0.84	0.59	0.66	0.90	1.23	2.09	2.95	3.79	4.70	5.65	6.38	6.97	7.48	7.80	7.97	8.09	8.16	8.17	8.10	6.46	4.82	3.19	1.55
2. New Oil Palm Planting Incremental Net Income (Special case)																											
(a) Incremental Income From 1 ha starting in 7th year (Kina) a/	852	993	1152	1493	1693	1907	2135	2337	2400	2440	2542	2535	2551	2542	2535	2553	2440										
(b) Scheme Incremental Net Income Special Case b/																											
(Assumes harvesting starts in 7th year after planting)																											
Ha Harvested	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PY1	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PY2	700	0.60	0.70	0.81	1.05	1.18	1.33	1.49	1.64	1.68	1.71	1.78	1.77	1.79	1.78	1.77	1.79	1.71	1.71	1.71	1.71	1.71	1.71	1.71	1.71	1.71	1.71
PY3	700	0.60	0.70	0.81	1.05	1.18	1.33	1.49	1.64	1.68	1.71	1.78	1.77	1.79	1.78	1.77	1.79	1.71	1.71	1.71	1.71	1.71	1.71	1.71	1.71	1.71	1.71
PY4	580	0.49	0.58	0.67	0.87	0.87	1.11	1.24	1.36	1.39	1.39	1.42	1.47	1.47	1.48	1.47	1.48	1.47	1.48	1.42	1.42	1.42	1.42	1.42	1.42	1.42	1.42
PY5	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Scheme Incremental Net Income Special Case	0.00	0.60	1.29	2.00	2.43	2.90	3.39	3.81	4.24	4.55	4.74	4.88	4.97	5.03	5.04	5.03	4.96	3.19	1.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3. Benefits From Increased FFB Collection c/																											
(a) Incremental FFB tonnes Collected (000'tonnes)	5.0	12.0	18.0	23.0	24.3	24.3	24.3	24.3	24.3	24.3	24.3	24.3	24.3	24.3	24.3	24.3	24.3	24.3	24.3	24.3	24.3	24.3	24.3	24.3	24.3	24.3	24.3
(b) Net Benefits from Incremental FFB Collection	0.59	1.42	2.13	2.73	2.88	2.88	2.88	2.88	2.88	2.88	2.88	2.88	2.88	2.88	2.88	2.88	2.88	2.88	2.88	2.88	2.88	2.88	2.88	2.88	2.88	2.88	2.88
4. Savings on FFB Collection Fleet (Million Kina) b/																											
0.006	0.066	0.174	0.304	0.434	0.434	0.434	0.434	0.434	0.434	0.434	0.434	0.434	0.434	0.434	0.434	0.434	0.434	0.434	0.434	0.434	0.434	0.434	0.434	0.434	0.434	0.434	0.434
5. Oil Palm Incremental Net Benefits (in Millions of Kina)																											
-0.73	0.97	2.64	4.25	4.91	6.81	7.36	8.03	8.78	9.96	11.00	11.98	12.99	14.00	14.73	15.32	15.83	16.08	14.48	12.82	11.48	11.49	11.41	9.77	8.14	6.51	4.87	
6. Oil Palm Incremental Net Benefits (in 000'US\$)																											
-261	347	942	1519	1752	2430	2628	2867	3137	3557	3930	4280	4638	5000	5260	5472	5655	5744	5171	4578	4100	4102	4075	3489	2906	2325	1738	
B. Project Scheme Costs																											
Total Oro Scheme Project Costs (US\$)	3279	3090	3210	2473	1222	986	986	986	986	986	986	986	986	986	986	986	986	986	986	986	986	986	986	986	986	986	986
C. Total Scheme Incremental Net Benefits (in 000'US\$)																											
-3540	-2743	-2267	-954	531	1445	1643	1881	2152	2572	2945	3295	3653	4015	4274	4487	4669	4758	4185	3592	3114	3117	3090	2504	1920	1339	753	
D. Economic Rate of Return (ERR)																											
E. Net Present Value in 000' US\$ (NPV @ 12%)																											
17.2%																											
4751																											
Exchange Rate																											
2.8																											

a/ The K652 represents the yield in the 7th year x FFB price/tonne minus labour and maintenance costs/ha
b/ The completion of the 105 km of the ex-incentive fund contract will enable the harvesting of 1,982 ha of existing oil palm stands because: (1) better access road network and (2) increased productivity from productivity enhancement through Extension activities.
c/ Incremental FFB will be collected from existing Smallholder ha of 9,000 (avg over project) x FFB price/tonne minus incremental fertilizer cost (K49/ha incremental fertilizer cost/ average 17.0 tonnes/ha).
d/ Lower collection costs on smallholder FFB due to decreased repair and depreciation costs to trucks because of improved provincial access road system.

Table 8. Overall Project Economic Rate of Return Analysis

(US\$ 000)	PY1	PY2	PY3	PY4	PY5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
Total Project (Three Schemes)																											
Incremental Net Benefits (in 000 US\$)																											
Hoskins:	-2,333	-2,915	-2,019	-1,405	-220	1,719	1,792	1,934	2,107	2,439	2,772	3,102	3,451	3,784	4,011	4,170	4,288	4,336	4,355	4,375	4,399	4,401	4,378	3,787	3,199	2,613	2,023
Bialla:	-2,926	-1,514	-1,447	135	533	758	783	867	953	1,055	1,164	1,282	1,386	1,488	1,568	1,619	1,654	1,675	1,691	1,693	1,693	1,693	1,678	1,358	1,036	727	697
Oro:	-3,540	-2,743	-2,267	-954	531	1,445	1,643	1,881	2,152	2,572	2,945	3,295	3,653	4,015	4,274	4,487	4,669	4,758	4,185	3,592	3,114	3,117	3,090	2,504	1,920	1,339	753
Total	-8,798	-7,172	-5,734	-2,224	844	3,923	4,218	4,682	5,212	6,066	6,881	7,678	8,489	9,286	9,853	10,276	#####	#####	#####	#####	#####	#####	9,146	7,649	6,155	4,680	3,472

Economic Rate of Return	ERR	NPV a/
Hoskins:	18.3%	5,629
Bialla:	13.2%	619
Oro:	17.2%	4,751
Project	16.7%	10,998

a/ NPV @ 12% in US\$ 000.

Annex 10: Safeguard Policy Issues

PAPUA NEW GUINEA: Smallholder Agriculture Development Project

Studies and assessments that have been carried out:

1. **Social Assessment (SA).** The objectives of the Social Assessment⁵⁶ were to (a) increase opportunities for optimizing social development outcomes through identifying the project beneficiaries and their needs, ideas, and expectations; verify the validity of the outcomes of the consultation process that have given rise to the proposed SADP activities; and examine possibilities for effective community participation in interacting with relevant service providers to meet communities' needs; (b) minimize adverse social impacts that could be caused by SADP; (c) mitigate unavoidable adverse social impacts and social costs of the Project; (d) propose guidelines for adopting a socially sustainable project design; and (e) prepare key socio-economic and social indicators for project monitoring and evaluation.

2. **Environmental Assessment (EA).** An Environmental Assessment⁵⁷ was commissioned by OPIC, together with the preparation of an Environmental Management Plan (EMP) and an Environment and Social Management Framework (ESMF) for Component 2 of SADP.

3. The proposed project design was been discussed at length with the Department of Environment and Conservation (DEC) since the identification mission in early 2003. In accordance with the Environment Act 2000, a "Notice of Intention to Carry Out Preparatory Work" on the project was submitted to DEC by OPIC in April 2006.

4. The decision by DEC was that SADP was "not prescribed under the Environment (Prescribed Activities) Regulation" and therefore an Environment Permit is not required by PNG law in order to carry out the proposed project activities. DEC may, nevertheless, use appropriate provision under the Act to "call up" or require owners of village oil palm blocks to apply for an Environmental Permit in the event that there is risk of environmental harm occurring due to oil palm cultivation. The change of emphasis of the proposed project from replanting 6,500 ha and new planting of 6,000 ha ("in-filling" along existing roads) to one of a potential in-filling of up to 9,000 ha with no replanting was discussed with the relevant officers of DEC. As long as the principal of "in-filling" along existing roads is maintained and in response to the provisions noted in the letter.

Consultations with Stakeholders

5. The methodology framework for the SA involved a mix of participatory and rapid rural assessment techniques. These techniques included interviews, workshops and focus group meetings with key beneficiaries and stakeholders and analyses of existing studies and data on smallholder oil palm production in the two project provinces (West New Britain and Oro).

6. The SA indicated that the proposed project can have a positive impact on the communities and households in the project area. In particular, the assessment highlighted problems of land tenure security and the deteriorating state of the provincial roads and associated problems as major

⁵⁶ The Social Assessment Reports were prepared by the Curtin University of Technology, Perth, Western Australia.

⁵⁷ The Environmental Assessment Reports were prepared by Douglas Environmental Services Pty Ltd, Papua New Guinea.

concerns by communities. The SA confirmed that the reconstruction and sustainable maintenance of the provincial access road network along with the proposed oil palm in-filling activities of the project can especially benefit women and youth and can, together with Component 2 activities, positively impact the community as a whole.

7. The consultant for the EA carried out field inspections of existing and potential smallholder oil palm areas in Oro and West New Britain Provinces, including consultation on site, or subsequently by telephone with interested parties in both provinces and collection of field data on Environmental Baseline and potential Environmental Impacts.

8. A workshop was held in Port Moresby with Industry leaders, Government officials, interested NGOs and other stakeholders, to identify issues that needed study in the preparation of the environmental and social safeguards provisions in the project and in the project and related documentation. In addition a detailed study was carried out to look at the impact of existing oil palm activities on quality of freshwater and stream health in the project areas by a specialist freshwater ecologist. The results of this study (in project files) indicated that existing oil palm operations are having no discernable adverse effect on freshwater quality in these two provinces. The report provides recommendations for future monitoring techniques and frequencies. A review of the PNG Environmental Legislation was also carried out.

Safeguards related risks and impact mitigation

9. The SA identified concerns amongst some oil palm growers, in particular those covered by the Land Settlement Schemes, over land tenure security issues and makes detailed recommendations on how these issues may be resolved during the implementation of SADP.

10. Although SADP deals only with new plantings of Village Oil Palm, road upgrade activities would assist growers who have established oil palm under the LSS and who come under OPIC for extension services. The SA recommends strengthening the capacity of OPIC by appointing, training, or recruiting staff to coordinate collaborative programs with external organizations, address land issues and foster greater inclusiveness. The capacity building of OPIC has been funded and an additional lands officer for each scheme would be recruited under SADP.

11. The SA contains two additional reports to further assist with the effective implementation of SADP. These are:

- **The Resettlement Policy Framework Report.** This policy has been prepared and would need to be adopted by GoPNG for the project in the unlikely event that involuntary resettlement (meaning any loss of assets or income earning opportunities) may be required in some in-fill areas (e.g. because of road upgrading) and has been prepared in accordance with OP 4.12, Involuntary Resettlement; and the Laws and Customs of Papua New Guinea. This policy contains measures to avoid any involuntary resettlement, land acquisition and other potential land-related negative effects of SADP.
- **The Beneficiaries Assessment Report.** The report contains an overview of the non-oil palm communities in the project areas and was prepared in order to (a) gain insights into the perceptions of beneficiaries and other local stakeholders regarding SADP; (b) devise a framework for oil palm beneficiaries' participation in project implementation, management,

monitoring and evaluation; and (c) devise a framework for non-oil palm beneficiaries' participation in the Project.

12. The SA recommends that OPIC should also support existing activities undertaken by provincial governments, CBOs and NGOs to address the rising incidence of HIV/AIDS among oil palm communities in the project areas. The research capacity of PNGOPRA on smallholder livelihood development should also be expanded. The SA also recommended reinforcing the capacity of the Growers' Associations to represent the interest of their members more effectively.

13. The SA confirmed the risks of enclave development due to the declining capacity of local institutions and poor community involvement in terms of basic service delivery and accountability. To address the weak institutional capacity of the LLG, it recommended to build up the capacity of the LLGs and to encourage partnerships between local institutions by using community organizations with proven track records in community development and also private sector partners. Finally, the SA offers a detailed framework and operational instruments for the household-level baseline survey for the monitoring of social impacts and to measure project performance during and after the implementation period.

14. The ESMF contains detailed environmental screening procedures for any projects that could be considered for funding under Component 2 of the Project, in accordance with **OP 4.04** on Natural Habitats and **OP 4.36** on Forests.

15. The EA noted that significant environmental issues that require special attention in the implementation of SADP are (a) avoiding risk to the Queen Alexandra Birdwing Butterfly (QABB) and its habitat (Oro Province); and (b) avoiding risk to a significant number of both formally protected and informally identified high conservation/tourist value sites (West New Britain province). Other environmental issues identified include (a) Integrated Pest Management, **OP 4.09**; (b) Protection of Community Resources such as water supply, gardens, etc.; (c) Management of Road Maintenance activities and their Environmental Impacts; (d) Erosion and Sedimentation Control; and (e) Fertilizer Use.

Staffing, implementation and monitoring

16. The EA and the SA recommended that qualified Environment and Social Officers should be employed to ensure compliance with the Environment Management Plan (EMP) and the recommendation of the SA, and that SADP should be audited twice a year by an independent environment and social consultant in association with two officers from the PNG DEC. The EMP contains strict guidelines for deciding on whether an area of land, which needs to be along and adjacent to an existing road in oil palm areas, could be converted to oil palm under the Project (**OP 4.04**, **OP 4.06**, **OP 4.11**, Physical Cultural Resources, appropriate clauses would be included in all bidding documents regarding the procedures to be followed in the event of chance finds of culturally significant artifacts or sites), and contains detailed Environmental Management, Monitoring and Control Procedures for all project activities.

17. Three environment and social officers would be recruited (one for each scheme), attached to OPIC; these officers would be responsible for monitoring the EMP and following the recommendation of the SA and would coordinate with the Independent Environment Consultant/s (Auditor/s), funds for the twice yearly audit, two weeks in country and two weeks report writing are

included under SADP. The TORs for the independent environment and social audit consultant/s would include an initial training of the Environment and Social Officers and assistance to two DEC officers whose travel and accommodation costs are covered under SADP to accompany the independent environment consultant/s whilst they are in country.

18. The EA outlines that all existing palm oil milling companies in PNG are ISO 140001 certified and have signed up to the Roundtable for Sustainable Palm Oil (RSPO), which contains provisions for immediate response to concerns expressed by people and organizations living and associated within the oil palm growing areas.

19. The overall SADP would be monitored by the Project Steering Committee, chaired by the Department of National Planning and Monitoring, and by regular IDA supervision missions.

Indigenous Peoples

20. The project complies with the World Bank's Indigenous Peoples Policy (**OP 4.10/BP 4.10**), specifically with regard to the requirement of "Free, Prior and Informed Consultation" as all participation in the project is voluntary and the components would be implemented in a highly participatory manner to benefit the indigenous people of Papua New Guinea in the oil palm growing provinces of West New Britain and Oro and in selected LLGs in West New Britain and all LLGs of the Oro Province. No separate IPP has been prepared, as the project as a whole constitutes the IPP. This is done as all people of PNG are considered as indigenous according to the policy.

21. **In Component 1**, there would be no compulsion for people to plant oil palm blocks along the upgraded roads but indications are that the success of smallholder oil palm blocks is a result of the efficient collection of produce at farm gate and the regular fortnightly payments through OPIC. The project is designed to minimize interruptions to collection of FFB during the prolonged wet season. There is already considerable interest amongst the communities serviced by the oil palm access roads for assistance under the project to establish new Village Oil Palm Blocks along the upgraded roads. Other potential crops are coffee and cocoa, but because these crops produce a higher value for weight commodity landowners tend to plant cocoa and coffee away from the roads and plant the heavier oil palm crop along the roads. Thus the improvement in standards of the access roads for oil palm collection would also assist growers of other crops.

22. **In Component 2**, the consultation process with Indigenous Peoples Organizations (IPOs) is exhaustive and clearly set out in the PIM, the ESMF, Resettlement Policy Framework and the Beneficiaries Assessment Report, and includes National, Provincial and Local Level governments and Ward Development Committees, elders, tribal leaders, women and youths. There has been considerable consultation with all stakeholders during the project preparation and appraisal, and the Social and Environment Assessments.

Annex 11: Project Preparation and Supervision
PAPUA NEW GUINEA: Smallholder Agriculture Development Project

	Planned	Actual
PCN review	06/25/2003	06/25/2003
Initial PID to PIC	07/17/2003	07/17/2003
Initial ISDS to PIC	07/17/2003	07/17/2003
Appraisal	02/22/2007	02/23/2007
Negotiations	04/30/2007	04/30/2007
Board/RVP approval	06/12/2007	
Planned date of effectiveness	09/12/2007	
Planned date of mid-term review	07/01/2010	
Planned closing date	12/31/2012	

Key institutions responsible for preparation of the project:

- OPIC, with assistance from PNGOPRA
- FAO/CP

IDA staff and consultants who worked on the project included:

Name	Title	Unit
Oliver Braedt	Task Team Leader	EASRE
David Chandler	Financial Management Sp.	EAPCO
Michelle Chen	Program Assistant	EASRE
Cristiano Nunes	Procurement Sp.	EAPCO
Nicolas Perrin	Social Development Sp.	SDV
Tim Armitage	Roads Engineer	Consultant - FAO/CP
Joe Nagy	Ag. Economist (Team Leader)	FAO/CP
Christophe Ribes-Ros	Social Development Sp.	Consultant - FAO/CP
Nuno Santos	Economist	Consultant - FAO/CP
Philippe Boyer	Consultant	EASRE
Robert Crooks	Consultant	EASRE
Guzman Garcia-Rivero	Consultant	EASRE
Lars Lund	Consultant	EASRE
Dennis Purcell	Consultant	EASRE
Thomas Vigus	Consultant	EASRE

IDA funds expended to date on project preparation:

1. Bank resources:	US\$829,000
2. Trust funds:	US\$407,000
3. FAO/CP:	US\$306,000
4. Total:	US\$1,542,000

Estimated Approval and Supervision costs:

1. Remaining costs to approval: US\$58,000
2. Estimated annual supervision cost: US\$120,000

Annex 12: Documents in the Project File

PAPUA NEW GUINEA: Smallholder Agriculture Development Project

- Study of the Smallholder Oil Palm Sector; Achievements and Potential for Future Development, Port Moresby, PNG. ADS (PNG) May 2001.
- Improving Productivity of the Smallholder Oil Palm Sector in Papua New Guinea: a socio-economic study of the Hoskins and Popondetta Schemes. KOCZBERSKI George, CURRY Gina and GIBSON K. November 2001.
- SADP identification mission: Financial Aspects. BROPHY Pauric. April 2003.
- SADP identification mission: Preliminary analysis of the potential environmental impact. DIWAI VIGUS Tom. April 2003.
- SADP identification mission: Access road program in target oil palm areas: institutional aspects. DICKSON Roger. May 2003.
- SADP identification mission: Access road program in target oil palm areas: technical aspects. HUBERTUS Kimmel. May 2003.
- Sustaining Production and Livelihoods among Oil Palm Smallholders: a Socio-Economic Study of the Bialla Smallholder Sector. KOCZBERSKI George and CURRY Gina. May 2003.
- SADP identification mission: Rural Development Component, study and proposed strategies. LUBETT Roland. May 2003.
- SADP identification mission: Assessment of Social Issues, Safeguard Policies and Identified Stakeholders. RASMUSSEN Soren. June 2003.
- Poverty assessment (World Bank, June 2004).
- SADP mission: CDD, second study and proposal. LUBETT Roland. September 2004.
- SADP technical mission: Options for the Oil Palm Industry to Mitigate the Risks of HIV/AIDS. SALES Lindsay. September 2004.
- SADP identification mission: Environmental Specialist fact finding mission report. DIWAI VIGUS Tom. October 2004.
- SADP technical mission: Community Development and Local Governance. LUBETT Roland. November 2004.
- Credit Component and Financial Analysis: Papua New Guinea Proposed Smallholder Agriculture Development Project. CUDDIHY William. November 2006.
- West New Britain and Oro Provinces Local Budget Cycles. SEARLE Robert. November 2006.
- Social Assessment, Beneficiaries Assessment, Environmental and Social Management Framework, Resettlement Policy Framework.
- Environmental Assessment, Environmental Management Plan.
- Project Information Document.
- Integrated Safeguards Data Sheet.

Annex 13: Statement of Loans and Credits
PAPUA NEW GUINEA: Smallholder Agriculture Development Project

Project ID	FY	Purpose	Original Amount in US\$ Millions					Cancel.	Undisb.	Difference between expected and actual disbursements	
			IBRD	IDA	SF	GEF	Orig.			Frm. Rev'd	
P004397	2002	PG-ROAD MAINT. & REHAB	40.00	0.00	0.00	0.00	0.00	47.22	10.07	0.00	
P054238	2000	PNG-GAZELLE RESTORATION II	25.26	0.00	0.00	0.00	0.00	1.57	1.57	1.14	
Total:			65.26	0.00	0.00	0.00	0.00	48.79	11.64	1.14	

PAPUA NEW GUINEA
STATEMENT OF IFC's
Held and Disbursed Portfolio
In Millions of US Dollars

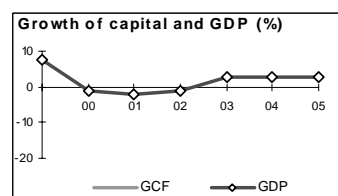
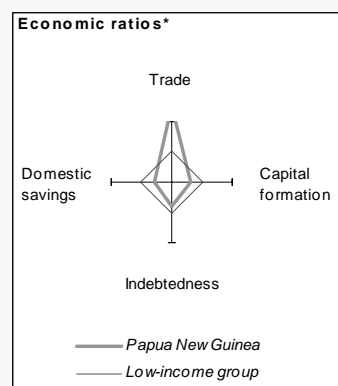
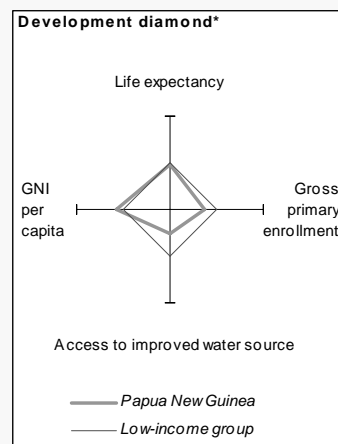
FY Approval	Company	Committed				Disbursed			
		IFC				IFC			
		Loan	Equity	Quasi	Partic.	Loan	Equity	Quasi	Partic.
2005	PNG MicroFinance	0.00	1.20	0.00	0.00	0.00	0.00	0.00	0.00
Total portfolio:		0.00	1.20	0.00	0.00	0.00	0.00	0.00	0.00

FY Approval	Company	Approvals Pending Commitment			
		Loan	Equity	Quasi	Partic.
2005	PNG MicroFinance	0.00	0.00	0.00	0.00
Total pending commitment:		0.00	0.00	0.00	0.00

Annex 14: Country at a Glance

PAPUA NEW GUINEA: Smallholder Agriculture Development Project

	Papua New Guinea	East Asia & Pacific	Low- income		
POVERTY and SOCIAL					
2005					
Population, mid-year (millions)	5.9	1885	2,353		
GNI per capita (Atlas method, US\$)	660	1627	580		
GNI (Atlas method, US\$ billions)	3.9	3,067	1,364		
Average annual growth, 1999-05					
Population (%)	2.1	0.9	1.9		
Labor force (%)	2.8	1.3	2.3		
Most recent estimate (latest year available, 1999-05)					
Poverty (% of population below national poverty line)	..	..	..
Urban population (% of total population)	13	41	30		
Life expectancy at birth (years)	56	70	59		
Infant mortality (per 1,000 live births)	68	29	80		
Child malnutrition (% of children under 5)	..	15	39		
Access to an improved water source (% of population)	39	79	75		
Literacy (% of population age 15+)	57	91	62		
Gross primary enrollment (% of school-age population)	75	115	104		
Male	80	116	110		
Female	70	114	99		
KEY ECONOMIC RATIOS and LONG-TERM TRENDS					
	1985	1995	2004	2005	
GDP (US\$ billions)	2.4	4.6	4.2	4.7	
Gross capital formation/GDP	19.8	22.1	..	..
Exports of goods and services/GDP	42.1	62.4	..	..
Gross domestic savings/GDP	9.5	41.2	..	..
Gross national savings/GDP	11.2	35.4	..	..
Current account balance/GDP	-8.1	17.0	4.1	..	
Interest payments/GDP	5.4	2.4	1.8	..	
Total debt/GDP	87.2	54.5	50.6	..	
Total debt service/exports	25.3	19.6	..	..
Present value of debt/GDP	..	..	46.3	..
Present value of debt/exports	..	..	..	..
	1985-95	1995-05	2004	2005	2005-09
(average annual growth)					
GDP	5.3	0.6	2.9	3.0	..
GDP per capita	2.7	-1.7	0.8	0.9	..
Exports of goods and services	8.2
STRUCTURE of the ECONOMY					
	1985	1995	2004	2005	
(% of GDP)					
Agriculture	36.6	..	..	..
Industry	28.5	..	..	..
Manufacturing	11.8	..	..	..
Services	43.4	..	..	..
Household final consumption expenditure	67.0	41.7	..	..
General gov't final consumption expenditure	23.5	17.1	..	..
Imports of goods and services	52.4	43.2	..	..
	1985-95	1995-05	2004	2005	
(average annual growth)					
Agriculture	4.4	1.2	..	..
Industry	8.9	-1.2	..	..
Manufacturing	1.6	-0.2	..	..
Services	2.9	-0.9	..	..
Household final consumption expenditure	-0.3	..	..	..
General gov't final consumption expenditure	2.0	..	..	..
Gross capital formation	4.4	..	..	..
Imports of goods and services	-1.3	..	..	..



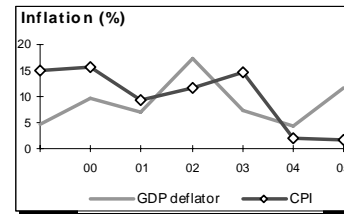
Note: 2005 data are preliminary estimates.

This table was produced from the Development Economics LDB database.

* The diamonds show four key indicators in the country (in bold) compared with its income-group average. If data are missing, the diamond will be incomplete.

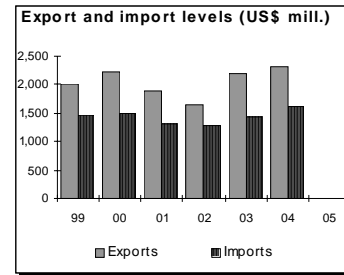
PRICES and GOVERNMENT FINANCE

	1985	1995	2004	2005
Domestic prices				
<i>(% change)</i>				
Consumer prices	3.7	17.3	2.1	18
Implicit GDP deflator	16	13.2	4.2	11.7
Government finance				
<i>(% of GDP, includes current grants)</i>				
Current revenue	30.5	29.2	30.8	..
Current budget balance	2.0	3.2	10.7	..
Overall surplus/deficit	..	-0.6	1.1	..



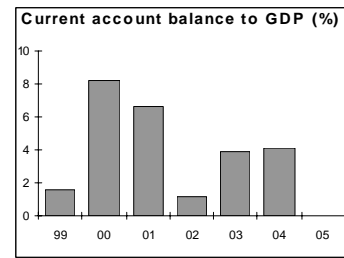
TRADE

	1985	1995	2004	2005
<i>(US\$ millions)</i>				
Total exports (fob)	972	2,832	2,329	..
Gold	335	662	846	..
Copper	209	737	479	..
Manufactures	..	..	..	..
Total imports (cif)	1,043	1,268	1,610	..
Food	166	225	..	..
Fuel and energy	184	148	..	..
Capital goods	304	347	..	..
Export price index (2000=100)	..	46	..	..
Import price index (2000=100)	..	..	..	..
Terms of trade (2000=100)	..	..	..	..



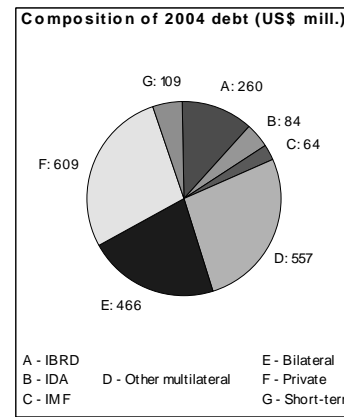
BALANCE of PAYMENTS

	1985	1995	2004	2005
<i>(US\$ millions)</i>				
Exports of goods and services	980	3,102	..	..
Imports of goods and services	1,179	2,005	..	..
Resource balance	-199	1,097	-61	..
Net income	-127	-207	..	..
Net current transfers	129	-108	237	..
Current account balance	-197	782	176	..
Financing items (net)	221	-590	-186	..
Changes in net reserves	-24	-192	10	..
Memo:				
Reserves including gold (US\$ millions)	445	262	636	..
Conversion rate (DEC, local/US\$)	10	13	3.2	3.3



EXTERNAL DEBT and RESOURCE FLOWS

	1985	1995	2004	2005
<i>(US\$ millions)</i>				
Total debt outstanding and disbursed	2,112	2,506	2,149	..
IBRD	75	299	260	249
IDA	109	108	84	78
Total debt service	340	626	474	..
IBRD	9	49	30	32
IDA	1	3	4	4
Composition of net resource flows				
Official grants	227	269	110	..
Official creditors	43	40	-82	..
Private creditors	186	-343	-214	..
Foreign direct investment (net inflows)	83	455	25	..
Portfolio equity (net inflows)	0	0	0	..
World Bank program				
Commitments	37	50	0	..
Disbursements	17	34	9	20
Principal repayments	4	29	26	26
Net flows	13	6	-17	-7
Interest payments	6	23	8	10
Net transfers	6	-17	-25	-17



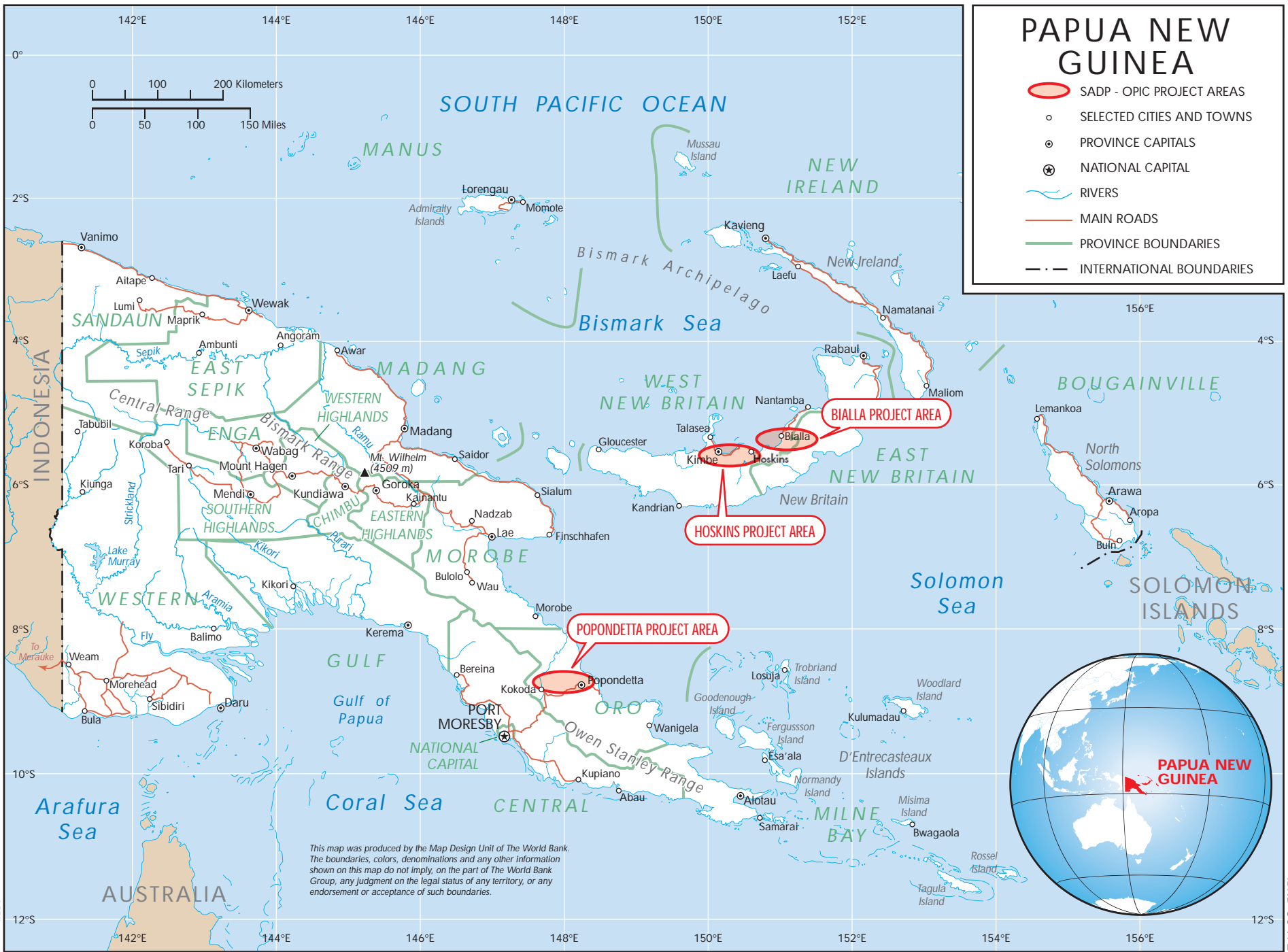
Note: This table was produced from the Development Economics LDB database.

8/13/06

Annex 15: Map
PAPUA NEW GUINEA: Smallholder Agriculture Development Project

MAP – PNG35472

MAP SECTION



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