ECONOMIC SECURITY IN MELANESIA: Key Issues for Managing Contract Stability and Mineral Resources Development in Papua New Guinea, Solomon Islands, and Vanuatu

by

P.A. McGavin
RESEARCH REPORT SERIES


Distributed by University of Hawaii Press
Order Department
2840 Kolowalu Street
Honolulu, Hawaii 96822

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1993

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Library of Congress Cataloging-in-Publication Data

McGavin, P.A. (Paul A.), 1943-
Economic security in Melanesia: key issues for managing contract stability and mineral resources development in Papua New Guinea, Solomon Islands, and Vanuatu / P.A. McGavin.
   p. cm. — (Research report: no. 16)
   Includes bibliographical references.
   ISBN 0-86638-159-7: $8.00
   1. Mineral industries—Melanesia. 2. Melanesia—Economic conditions. 3. Economic security—Melanesia. I. Title. II. Series: Research report series (Pacific Islands Development Program (East-West Center)); no. 16.
   HD9506.M52M38 1993
   333.8'5'0995 — dc20
   93-23306
   CIP

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Preface

This report is an edited version of McGavin (1993), which was written while the author was a fellow with the Pacific Islands Development Program (PIDP) at the East-West Center. The main outlines of this monograph were written before the author read Parsons and Vincent (1991). That insightful study also contains a review of major Papua New Guinea minerals and energy developments and an extensive bibliography (Appendices A and B). Stein (1991) was available at the time of writing and includes an appendix on oil and gas prospects in Papua New Guinea by Alan Cook. This is updated and supplemented in Fallon (1992), which includes another appendix by Alan Cook on environmental aspects of the mining and petroleum industry in Papua New Guinea. A geological overview is found in Lum, Clark, and Coleman (1991). Parliament of the Commonwealth of Australia, Joint Committee on Foreign Affairs, Defence and Trade (1991), provides an up-to-date review of development assistance relations (and includes Appendix 9, which reprints the Submission on Australia's current aid program to Papua New Guinea made by the Australian International Development Assistance Bureau).

No significant mining developments are occurring in Vanuatu, and only the small Gold Ridge development on Guadalcanal is under way in Solomon Islands. Thus the study predominantly treats Papua New Guinea data. Melanesia has been adopted for the title in the belief that lessons from Papua New Guinea about managing contract stability and minerals resources development have much potential relevance for other Melanesian nations.

In most of this study, the terms "mining" or "minerals" are used to include petroleum because "mineral and hydrocarbon resources development" seems unduly cumbersome, and the issues of principle that are relevant to this study seem to be the same for both industries.

As a style of writing, it is easier and more accessible for readers to write, "such and such should be done." This, however, may give a prescriptive or "do this" tone to the writing. This is not intended in a peremptory
way, and the real purpose of the report is suggestive—along the lines of
"something like this should be more closely investigated and imple­
mented in ways that are found practical and appropriate."

The author has benefited from discussions with persons cited in the ac­
knowledgments at the end of this study. The author is particularly grate­
ful to Mr John Millett, Director of the Institute of National Affairs, Port
Moresby, and Dr Sitiveni Halapua, Director of PIDP at the East-West
Center. Funding for fieldwork leading to this study has come from the
Institute of National Affairs, the University of New South Wales, and
PIDP. Initial writing was undertaken during 1991, while the author was
on study leave from the University of New South Wales at the Australian
Defence Force Academy, Canberra, Australia, and a Fellow at the East­
West Center. It was revised after follow-up fieldwork in Papua New
Guinea in May 1992. Assistance is gratefully acknowledged from support
staff at PIDP and University College, Canberra.

Dr P. A. McGavin
Executive Summary

Security usually connotes defense and police force functions. This study takes a larger approach where security comprises ensuring access to more and a greater range of desired goods and services, with less variability in provision. The study explores the management of mineral resources development as a means of promoting economic security in Papua New Guinea and also applies these lessons for potential mineral resources development in Solomon Islands and Vanuatu.

Two chief aspects of the management of mineral resources development are investigated: (1) the stabilization of contractual environments for mineral resources development and (2) the strategic use of opportunities resulting from mineral resources development to achieve broad-based and sustained economic and social development at several levels (national, provincial and equivalent, and local-area levels).

Successful management for achieving stability of contractual environments and successful strategic use of opportunities arising from mineral resources development are closely interrelated. Implementation involves cross-cultural development: cross-cultural between the varieties of cultures within Melanesian national societies and between Melanesian cultures and the dominant international market culture.

This development paradigm brings a recognition that social and economic environments are not constant, but rather are subject to constant construction and reconstruction through social processes. The achievement of desired outcomes of economic security therefore involves the management of opportunities in ways that evoke assent that the social and economic reconstruction that is engaged is indeed "development."

The path of mineral resources development involves destruction of capital (whether non-renewable geological resources or the undoing of established social orders at the local to the national levels). Recognition that mineral resources development uses up physical and social capital forcefully urges that surpluses available from this development be used for
capital reconstruction through the formation of physical infrastructural and human capital. At the local-area level, this involves the construction of alternative and sustainable socialities.

The two key instruments for achieving Melanesian national success in an international setting are (1) cross-cultural adaptation in the management of contractual environments and (2) Development Trust Funds (national, provincial, and local-area) that strengthen institutional arrangements to ensure that surpluses from mineral resources developments are effectively and efficiently applied to capital reconstruction and expansion. These lessons are applicable to other contractual environments and to wider issues of national development policy—both of Pacific nations besides Papua New Guinea, Solomon Islands, and Vanuatu and of developing nations generally.
Introduction

Economic Analysis and Security Policy

This introduction briefly and somewhat abstractly raises a variety of perspectives and both narrows and widens these. The narrowing occurs because the perspective for security policy is to be gained mainly from the insights of economic analysis. The widening occurs because the economic perspective is acknowledged as encompassing the institutions that define societies and cultures. And the normative purposes that economic analysis and security policy serve are acknowledged as involving processes of cultural change and development.

Economic analysis and security policy that is understood as involving economic change and development that is linked with cultural change and development also implies processes of cross-cultural change. The cultural changes involved concern not only the Melanesian nations under study—but also the overseas and international groups and organizations and nations with which these Melanesian cultures are engaged.

Economics and Culture

Presenting economic analysis and security policy with three Melanesian case studies underscores the institutional nature both of economics and of culture. Most of the peoples of these nations have a measure of racial affinity described as Melanesian. Although race may form part of social identification, shared institutions are stronger in the bonding and in the functioning of social groups—from communities to nations and to international organizations. An awareness that economies are cultural phenomena that operate through institutions of society also brings an awareness that economic change and development imply cultural change and development. A policy of economic change amounts to a policy of cultural change. Some people treat culture as something to be retained in a static form. Some people shed one culture and embrace another. Mostly the search is for adaptation that is judged to be one of cultural development.

From an economic perspective, the search for greater economic security (bringing more and a greater range of desired goods and services, and
with less variability in provision) leads to a search for economic change and development that is part of a larger process of social, political, cultural change and development. This means that economic analysis and security policy involve processes of cultural adaptation.

**Economic Security**

Security policy may imply different things according to context. A common thread that may be noticed is that security policy involves the management of situations so that risks are reduced and desired outcomes are attained or maintained. The evaluation of needs for and the provision of security arrangements in different contexts for the purposes of formulation and implementation of security policy thus implies operations within common codes of conduct in an agreed social order.

The context of shared codes of conduct is not intended to imply that security policy involves only the maintenance of static outcomes. Outcomes may be subject to change and the circumstances being considered for security policy may be dynamic. In which case the processes of change involve a measure of consent. One of the objectives of security policy may be to manage change in ways that contain or limit disagreement or conflict—thereby enhancing a dynamic or developmental experience of security.

These introductory remarks present security policy as treating the evaluation of needs for and the formulation, articulation, and implementation of arrangements that reduce risk and that secure desired outcomes. Security policy is thus necessarily *normative*—it treats *desired* outcomes. The normative content of security policy is worked out and is expressed within a social order. And because there are varieties of social order, security policy expresses the norms of an appropriate reference group or groups (such as the local community, the province, a corporation, the nation, etc.).

Social orders are defined by and operate through shared codes of conduct. These codes of conduct are the social institutions by which social orders occur and function. The evaluation of needs for and the formulation, articulation, and implementation of security policy thus focuses on definition and assessment of social institutions—and how these may be managed to enhance security.

**Contracts as Social Institutions**

Contracts are particular social institutions that involve agreement between the contracting parties, especially ones that are written and enforceable by law. As such, contracts are social institutions that take par-
ticular formal expression. Moving toward the goal of stabilization of contractual environments in Melanesian nations first requires understanding that contracts as exemplified by the failed Panguna mine contract do not evoke sufficient consent. The insufficiency of consent is because there is an inadequate encasing of shared codes of conduct between the contracting parties. In order adequately to encase shared codes of conduct, contracts in Melanesian nations need to be cross-cultural. Sustainable contracts need to bring together codes of conduct that evoke sufficient assent and means of enforcement across the cultural values of the contracting parties. Without such a search for cross-cultural institutional form, one should anticipate instability of contractual environments and a collapse of the processes of economic and social change and development.

Forward-looking Purpose of the Study
The apparent failures (up to the time of writing) of attempts at military and political solutions to the problems of Bougainville suggest the relevance of an economic analysis and security policy study for understanding conflicts of this kind, and for remedying them and—more important—for developing economic policies that avert deterioration of national, regional, and local security. A better understanding of contractual environments in Melanesian nations that assists in the formulation, articulation, and implementation of successful contracts has large implications for the expansion of resource development in these nations. And the purpose of this study is a forward-looking one intended to help the contractual process for existing and prospective contracts that are beneficial for the people of Papua New Guinea, Solomon Islands, and Vanuatu. Because of the great variety of contracts involved in the conduct of diverse economic activities, simplification is achieved by concentrating on contracts for natural resource development (especially mineral resources extraction). With appropriate adaptation, the principles are widely applicable. Because mineral resources development has barely begun in Solomon Islands and Vanuatu (Lum et al. 1991), the examples are drawn from Papua New Guinea. The different legislative frameworks of Solomon Islands and Vanuatu receive attention, and most of the principles argued with reference to Papua New Guinea may be applied to these Melanesian nations.

Progress has been made in the enculturation of contractual forms to meet the cross-cultural environments encountered in economic activity in Papua New Guinea. But more progress is needed. Part of the progress involves simply identifying and understanding what the different parties bring to the contractual setting.
What the Parties Bring to the Contractual Setting

Corporation

Value-adding

A starting-point in understanding what corporations bring to the contractual setting is viewing corporations as bringing resources the application of which increase the value of Melanesian resources. The resources brought are diverse and include the following:

- physical resources such as plant and equipment that are involved in the processes of:
  - exploration and mine construction, and
  - minerals extraction and processing for geographical re-location and readiness for export;
- know-how resources that are used in successfully developing and managing:
  - the development of mining activity, and
  - the value-adding processes of mining activity.

The above description makes it clear that resources involved in mining development are both physical capital (plant and equipment) and human capital (know-how that has been formed through years of human skills formation). The description also involves distinguishing capital outlays and current outlays. And the mining activity is described as value-adding activity.

Value-adding activity involves economic activity whereby the application of capital and current-period resources increases the value of transformed resources. The value-adding may be as simple as re-location. In this study “mining” includes mineral and hydrocarbon resources, and “mineral resources” and “mining” are used as catch-all phrases. With mining, value-adding involves all the lead-up processes that precede
minerals extraction, the extraction of minerals, processing to forms suitable for transportation and international marketing of the product, and transportation of the product to the point of international transshipment, etc.

The essence of the mining activity is value-adding. A more common economic term for this activity is production. That is, mining activity is productive activity and brings resources that allow value-adding to Melanesian mineral resources.

Assessing Value-adding

An appreciation of what mining corporations bring to the contractual setting involves recognition of value-adding activity and the means whereby value-adding may be assessed. The way that investment has been introduced emphasizes both physical and non-physical aspects, its opportunity-cost nature, and the time profile of resource outlays. Recognizing the time profile is crucial because development of a mine may occur over many years (say, between 1975 and 1985), and the anticipated pay-off from this investment may be removed and extended in time (say, between 1983 and 2003). In order to assess the value-adding activity, it is necessary to take outlays and returns over time—that is a stream of gross outlays and a stream of gross returns. Deducting the stream of outlays from the stream of gross returns gives a stream of net returns.

During the mine development stage, net returns will be negative; as the mine comes into operation expected net returns will begin to tilt toward positive sums; during the operational life of the mine the net returns will be expected to be positive. Thus the flow of net returns will start with negative figures and stretch into the future with positive sums.

Where alternative use of these resources (say, for a mine in Irian Jaya or in Australia) would bring an expected rate of return of, say, 20 percent, then this percentage becomes an opportunity rate of return. Applying this opportunity rate of return as a discount rate (or interest rate) to the stream of expected net returns derives an estimate expected net present value. For a particular use of particular resources, this procedure gives an estimate of expected value-added.

The resources for creating this value-added are what the mining company brings to the contractual setting. And it is the opportunities for gaining this value-added that lead to the search by the corporation for a
What the Parties Bring to the Contractual Setting

contractual environment in which these profitable productive activities may be undertaken.

The corporation may be a foreign national or multinational firm and may or may not include Melanesian equity investment. It will simplify the analysis if the firm is first thought of as an overseas corporation. The resources that firms apply in development and in operations stages will include both imported resources and domestic resources. For ease of exposition resources may at this stage be thought of as coming from overseas. On this simplified view (that is later revised), the value-adding activity is largely foreign value-adding activity that occurs within a Melanesian setting.

National Government

Contractual Environment

From the viewpoint of the corporation, the national government brings to the contractual setting a contractual environment. The contractual environment that was brought to the contractual setting for the development of the Panguna mine at a period during which the Australian administration was preparing for the independence of Papua New Guinea was one that encased foreign codes of conduct. It was inevitable that this should be so, since the very notion of a state or nation was not indigenous to Papua New Guinea (or Solomon Islands or Vanuatu). The idea of a nation was in the process of formation in Papua New Guinea, and the continuing formation and reformation of a sense of nation state is a key function of the government of independent Melanesian nations (as, indeed, of all national governments). With progress in the social definition of the state, the notion of nation may be expected to assume greater Melanesian identity, and to be less viewed as something foreign and imposed by Australia (or the United Nations, or Great Britain or France).

The British contractual environment inherited from Australia is one that has significant economic advantages and provides a legal and social context that is particularly conducive to engaging in economic activity with a long time frame and uncertain outcomes. For these reasons, corporations may be expected to continue to show a tendency to prefer that governments of Melanesian nations bring a foreign contractual environment of the kind introduced to Papua New Guinea by the Australian administration.

On this perspective, the national government brings the framework of public order and national and international security involved in the
effectual functioning of the modern state. So understood, the national government also is bringing resources to the contractual setting. The state brings the resources of a (supposedly) stable contractual environment that is manifest in public service administration, police, judicial, and military functions, etc., that are exercised within the democratic and constitutional framework of the modern state.

If the state is viewed as a deliverer of national public order, the search by the national government for some sharing in value-added coming from mining activity may be interpreted in part as a claim based upon resources contributed to the value-adding activity. These resources are the contractual environment that is made available through the direction of goods and services to the provision of public administration, police, judiciary, national defense, etc.

**Infrastructural and Human Capital Resources**

It has been recognized that domestic resources will also be used in mining value-adding activity. These include the employment of nationals who have skills of language, numeracy, and civic conduct that have been formed partly through public investment in schools and universities, etc., and the use of roads, airports, harbors, and other public infrastructural facilities that have been developed and maintained by national resources (and by public resources of overseas nations engaged in development assistance to Melanesian nations).

If the state is viewed as a deliverer of national human capital and of national infrastructural capital and infrastructural services, the search by the national government for some sharing in value-added coming from mining activity in part may be interpreted as a claim for resources contributed to the value-adding activity. Precise valuing of the resources brought to the activity may be difficult, but the principle should be clear. In principle, then, at least some of the share in value-added from mining may be considered as claiming actual contributions to the value-adding activity of the mining corporation or corporations.

**Search for Unearned Incomes or Rents**

Where a party (such as a national government) makes claims for actual contributions to value-adding activity of the kind just described, its claims should be considered to be *earned* income. Where, however, claims are made that do not reflect actual contributions to value-adding activity, these claims are a search for *unearned* income. A common economic term for unearned incomes is “rents.”
What the Parties Bring to the Contractual Setting

It is from this economic term that the phrase "rent-seeking behavior or activity" has come into usage. Rent-seeking behavior occurs where people or legal entities are able to get income that is greater than the value of contributions made to the value-adding activity. Banditry is the clearest example of rent-seeking activity, because the robber contributes nothing to value-adding activity (he instead creates "negative value" such as fear of violence or actual harm) and extorts claims upon the fruits of the productive activity of other people.

Where national governments come to the contractual setting with claims that exceed the contributions that they bring to the value-adding activity, rent-seeking activity occurs. Where this rent-seeking activity is obvious or is excessively obvious, corporations may seek to develop mineral resources that are located within states where governmental rent-seeking behavior is less marked. That is, firms may seek alternative investments outside Papua New Guinea, Solomon Islands, or Vanuatu. International alternatives to investment in Melanesian nations thereby to some extent limit rent-seeking behavior by Melanesian governments.

Nevertheless, the attraction of unearned incomes for national governments gives impetus for politicians and bureaucrats to search for contractual forms that maximize rents. This means that national politicians and bureaucrats may be expected to seek to secure contractual forms of the kind preferred by corporations. The preferences of corporations derive from the apparent economic functionality of foreign contractual forms. The preferences of national politicians and bureaucrats may be expected to be influenced by the opportunities that this contractual form gives for gaining unearned incomes.

Corporations also may be expected to bring rent-seeking behavior. To the extent that corporations are successful in rent-seeking, they may be expected to attract other corporations to the nation in search of rents—so that international competition over time reduces rents accruing to corporations.

Provincial Governments
Legal and Functional Identity

Provincial government as it emerged in Papua New Guinea was much influenced by attempts to meet revived expression of long-standing aspirations for autonomy by people on Bougainville. On this view, it was the creation of the North Solomons province that generated the particular form of provincial government involving 19 provinces, and a National
Capital Commission for the National Capital District. The legal status of these provinces is defined under the Constitution of the independent state of Papua New Guinea as enacted in the Organic Law on Provincial Government, 1977. This law confers goods and services and land taxing powers on provinces and delegates responsibility for a range of public services including primary and lower secondary schools, and agricultural extension. The effective implementation of this delegation of power occurred over a number of years, and elected provincial government was not immediately introduced to all provinces.

In practice, the taxation powers of provincial governments have been little utilized, and this level of government has overwhelmingly relied upon grants from national governments. Most provincial centers have now acquired substantial (sometimes even impressive) administrative and assembly establishments. The performance of provincial governments has been various. Overall, serious declines have occurred in the quantity and the quality of public services delivered to rural areas in Papua New Guinea (particularly, in the quality of primary schooling and agricultural research and extension). Similar observations apply to provincial governments in Solomon Islands and to local governments in Vanuatu.

Marked Failures in Functions

Reports by the Auditors-General of Papua New Guinea and Solomon Islands on the departments of the provinces have successively revealed corrupt spending practices and grave mismanagement of finances and public administration. This has led to several instances in Papua New Guinea of suspension of provincial governments by the national government and to the appointment of provincial administrators.

This state of affairs means that very frequently provincial governments poorly contribute to the delivery of public goods and services, and these are mainly funded from national government funds. This funding is mostly extremely inefficient, in that a large proportion of funds go to unintended uses (McGavin 1992a). Even where funds are used in accordance with provincial assembly appropriations, the ineffectiveness and inefficiency involved in the use of these resources for the delivery of public services is often more serious than similar deficiencies in national public administration.

Prevalence of Rent-seeking

The failings in the delivery of provincial public services mean that favorable assessment of value-added contributions to corporate economic ac-
tivity within any given province may be in doubt. Similar doubts are present for the national government, but the history of failures in the provincial delivery of public services makes difficult the practical economic definition of the functional identity of provincial governments in Papua New Guinea. The same comments apply to Solomon Islands. Vanuatu does not have a provincial structure of government decentralization, but local governments have assumed some provincial government functions.

The situation just described limits the scope for attributing *earned income* to provincial government sharing in value-added by corporate economic activity within provinces. And the case for attributing *unearned income* to provincial government sharing in value-added by corporations is increased. That is, rent-seeking behavior may often be dominant as provincial politicians and provincial administrators approach contractual settings for mineral resource development. In principle, this need not be so. But making it otherwise involves changes in the process of sharing in corporate value-added and in the reform of provincial administration.

**Local Governments**

Local governments have a longer history (than provinces) in Papua New Guinea in that luluai were appointed by colonial district administrative officers and exercised limited responsibilities for village or local affairs. During the period of transition to independence, elected local governments were formed, with the ability to levy a head tax and responsibilities for village and local roads and public areas. Local governments have not usually been represented in the contractual process for mineral resource development and have usually been displaced by local landowner associations. Probably local government should have more attention in this study than a small heading and a brief paragraph conveys. But difficulties may arise in bringing local landowner interests into alignment with the geographic boundaries of local government areas. The possibilities for this, and the desirability of this, can however be treated as an extension of principles and policy applications for provincial governments.

**Local Landowners**

*Defining Legal Identity*

The Land Act and the Land Groups Act recognize customary or traditional ownership of unalienated land in Papua New Guinea. Disputes over land ownership are governed by the Land Disputes Settlement Act and the Land Titles Commission Act. The different areas in which min-
ing activity occurs present various difficulties in defining landowner identity.

Barely-used areas. Mining activity often occurs in localities that are little populated, and this particularly may be the case in Papua New Guinea. Prior to the development of Mt. Kare, the area was little used for subsistence agriculture, although it was periodically used for gathering and hunting and for traversing to other localities that were more used for subsistence production. Such cases exemplify the extreme difficulty that may be encountered even in defining the relevant landowner group, since several groups may seek to establish landowner claims and may support these claims by recent migrations into mineral lease areas.

Low-intensity-of-use areas. Mining activity may occur in areas of very low intensity in land use as occurs with slash-and-burn shifting subsistence agriculture. The areas of the Ok Tedi mine and Kutubu oil drilling are examples involving very small landowner populations with recent and very limited relations with human society outside their areas. Identification of landowner groups may again be difficult and may require extensive ground-level research.

Medium-intensity areas. Sometimes mining activity occurs in areas subject to stable or relatively stable subsistence agricultural use, with more clearly identified claims to land tenure. The areas of Panguna and Porgera mines are examples of such landowner groups (although the Porgera population greatly expanded as a result of in-migration after 1972).

Downstream areas. The physical impacts of mining activities are in most cases not confined to the mining sites. Development of the Hides Gas project involves transmission of power from the Hides site to the Porgera mine; development of the Kutubu oil fields involves construction of a pipeline through to the coast in Central province. Environmental disturbance or damage may occur in areas far removed from the mining sites—particularly where waterways are used for effluent discharge. Mining by Ok Tedi Mining Limited at Mt. Fubilan, for example, has downstream effects that extend beyond the Ok Tedi and into the Fly River.

These impacts and disturbances bring to the contractual setting many diverse customary landowner groups. Difficulties of identification may be extreme (for example, a river may have multiple uses and multiple users), and achieving a sufficient measure of consent across diverse
groups and sufficient consistency of treatment may be extremely difficult.

Defining Opportunity Costs

Defining the resources that a corporation brings to the contractual setting requires explanation of opportunity costs. This concept is relevant also for considering what landowners bring to the contractual setting. Where mining activity displaces subsistence farming or gathering or hunting, etc., opportunity costs are incurred by customary landowners. These costs are incurred regardless of whether the mining company or the government makes actual outlays to cover foregone subsistence products. The Papua New Guinea Mining Act requires, for example, that mining lessees have registered compensation agreements with customary landowners of mining tenement areas (sect. 155). These agreements specify compensation in terms of so much per hectare of agricultural land, so much per pandanus tree, etc. Local customary landowners bring to the contractual setting their demands for compensation for subsistence production foregone. These are not claims for "unearned incomes."

Defining Damages

The costs to customary landowners may be far wider than the usual conception of opportunity cost, because the mining activity may involve the wholesale disturbance of group and individual lives—with traumatic requirements for relocation and readjustment and for re-establishing viable group and personal economic and social orders. Claims for disturbance damages and relocation assistance are brought by customary landowners to the contractual setting. Being in actual possession of something gives it a larger value than values attached to things in potential or possible possession, so even setting aside the common tendency to inflate claims for damages, one should expect that the parties who are in possession will tend to place a higher value on their possession than will other parties who assess their damages (Knetsch 1989). This needs to be appreciated in assessing claims for damages.

Compensation

Phrases like "disturbance damages" and "relocation assistance" do not express the dominant demands that customary landowners may bring to the contractual setting. The pervasive phrase in Papua New Guinea is "compensation." Typically, this phrase does not convey an opportunity cost sense of payment for that which is foregone. Compensation claims in Papua New Guinea usually start off with some fabulous sum that first
comes into the head,” and in customary circumstances conclude with the maximum that can be extracted. In principle there are valid claims that fall within an opportunity cost understanding of contributions that may be brought by customary landowners to the contractual setting (claims that are not appropriately described as “unearned incomes”). In practice, however, the greater part of compensation claims brought by customary landowners are likely to involve a search for unearned incomes.

**Managing Unearned Incomes**

During a 1990 speech, Prime Minister Rabbie Namaliu said “We should abolish the word compensation!”—meaning that he should like to see a marked diminution in the making of unreasonable and often violently enforced claims having little basis in actual costs incurred. But the cultural institution of compensation is long and deeply engrained in Melanesian cultures, and “abolition” seems unlikely. What is required, then, is some means of managing that rent-seeking activity and some means of influencing the application of unearned incomes in ways that are helpful, rather than unhelpful, for the economic and social development of local customary landowner groups.

Particular emphasis should be given to the need to evolve institutions that enable once-off unearned incomes and accruing unearned incomes to be directed in ways that help the economic and social development of customary landowner groups. One may expect a degeneration and destabilization of the contractual environment, unless the need to form institutional arrangements that foster development for local customary landowners is strongly brought to the contractual setting.

**People of Papua New Guinea, Solomon Islands, and Vanuatu**

The people of Papua New Guinea, Solomon Islands, and Vanuatu who are not directly involved in mining developments either through contributing domestically sourced goods and services or through customary land interests will not bring earned income claims to the contractual setting. Nor will their interests be directly expressed in the contractual setting. But the function of the body politic that has institutional form and legal force in national and provincial governments is to represent the interests of their electorates—thereby indirectly expressing the interests in
the contractual setting of the people. This means that "the good of the nation" or "the good of the province" should be key considerations brought to the contractual setting by national and provincial governments.

How "the good of the nation" or "the good of the province" is understood will critically impinge upon the aspirations that governments bring to the contractual setting, as well as the outcomes that they seek to achieve. This is especially so in terms of the ways in which the accrual and use of incomes from equity interest and unearned incomes are incorporated into contract provisions. So far, the uses to which unearned incomes are to be applied have not expressly been brought to the contractual setting (except as general statements of general principle). Articulated expression of public interest should be brought to the contractual setting in order to strengthen contractual implementations that work to stabilize particular contractual environments and to stabilize the overall contractual environment of the nation.
Stabilization of Contractual Environments: Key Economic Concepts

Game Theory and Externalities

*Game Theory*

Economic approaches to strategic management frequently utilize “game theory” (the term implies an analogy with strategic games, such as chess). The “sum of the game” refers to the net outcome of the game—whether zero, positive, or negative.

**Zero-sum games.** An example of a zero-sum game is where overall product demand is little altered through advertising, and product marketing initiated by one firm involves gains in sales at the expense of another firm. That is, one “wins” (a plus, +), another “loses” (a minus, -). Where the “win” of one firm is matched by the “loss” of another firm, the plus and the minus sum to zero. Thus, “zero-sum games” are “win”/“lose” games where gains and losses cancel out and, overall, no one gains.

Essentially, zero-sum games are “distributive” rather than “productive”—because the game alters the “who-gets-what” but does not alter the “sum-of-the-what.” Zero-sum or constant-sum games are *distributive games.*

**Positive-sum games.** The economics application of the above example is that “players” should seek “positive-sum games.” By adopting strategies that increase economic opportunity (by, say, expanding the market) the game less focuses on “who-gets-what” because the “sum-of-the-what” is increased. The focus of these games is productive rather than distributive so positive-sum games are *productive games.* Positive-sum games are “win”/“win” games in which “there’s something-in-it for everyone.”

**Negative-sum games.** Product output and pricing decisions for near-period profit maximization that induce competitor response resulting in lower profits for all market participants are an example of a “negative-sum game”—for on a longer time horizon all participating firms earn lower
profits. That is, the strategy of the game gives negative returns to participants. From the viewpoint of the players, negative-sum games are unproductive games.

Economic approaches to strategic management that are applied at the level of the firm seek positive outcomes for the firm. Applying these approaches at the level of the society involves the search for positive outcomes for the society. The first outcomes are sometimes called “private” and the second “social.”

**Externalities**

Strategic economic management applied microeconomically to derive positive gains may involve losses (“negative gains”) for others or for the wider society—losses that are not imputed by the microeconomic units. The micro-units could be mining corporations or customary landowner groups. Loses that are not imputed by micro-level actors are termed “negative externalities.” (Examples include environmental disturbance that is not imputed by mining corporations, or the costs of disruption to mining production that are not imputed by disrupting customary landowners.) Gains that are not imputed by micro-level actors are termed “positive externalities.” These gains and loses are “external” to the relevant economic unit (whether, say, corporation or customary landowner group) and are called externalities.

**Practical Implications—Game Theory and Externalities**

In principle, then, economic analysis attributes the functions of governments (as representatives of the wider society or body politic) as including the recognition of externalities and appropriate policy response. Public policies of governments should therefore seek to foster positive externalities and seek to induce game players to “internalize” negative externalities. Pro-competitive market policies are a general case of internalizing negative externalities of monopolistic market behavior.

**Property Rights**

*Property rights* is the general term given to the vesting of ownership of assets. In a free and democratic society, each man or woman has non-transferable property rights over his or her own person (that is, slavery is illegal, and each man or woman engages in wage employment, etc., at his or her own decision). In a society having copyright laws, authors may secure the title to their intellectual property, and their property rights are
transferable only within the provisions of the law. In most societies the ownership of land is vested in particular persons or legal persons, and the title or property right to land is transferable only within the law. Some property rights (like copyright) represent a recent development of property law. Others, like ownership of land, are very ancient. The cultures of Papua New Guinea, Solomon Islands, and Vanuatu often have vaguely defined property right concepts—especially in respect of land.

Transfer of use, but not ownership, of land. Land is commonly not viewed by Melanesian peoples as an asset that may be bought and sold (land is not viewed as a commodity that is transferable). It has been common in the past for Europeans to understand that they had engaged a contract of sale for land, where the indigenous persons instead understood themselves as engaging an agreement involving transfer of the use of the land (but not the transference of the property rights of the land).

Indeterminacy of conditions of transfer of land. Because of the "softness" of indigenous notions of agreements (contracts), customary landowners may consider the terms governing the transfer of use of land to be open for re-negotiation or re-specification in circumstances where foreigner transferees would consider binding contracts to be in force.

Definition of ownership of land. Sometimes in Melanesian cultures, land may be viewed as owned by no one, and people may instead consider themselves to be in customary occupancy involving an ill-defined stewardship of the land. Most commonly, property rights over land will be viewed as shared by a family or a kinship group or a clan. Often different groups may have differing degrees of ownership claims upon land—so that there may be over-lapping property rights. Other times there may be conflicting property rights (especially for land that is little used), and these conflicting claims may lead to violence or warfare. Definition of ownership of land will vary between one local society and another, and the phrase customary land ownership covers the varieties of notions of property rights of land that are encountered in Melanesian societies.

Alienation of land. Only a small proportion of land in Papua New Guinea, Solomon Islands, and Vanuatu was transferred or expropriated from customary ownership (the term commonly used is alienated) (in Papua New Guinea the figure is about 3 percent). The preponderance of continuing customary land ownership is part of the grave land shortage problem that is prevalent in urban areas in Papua New Guinea. Under Papua New Guinea law, only citizens may acquire property rights to land. As a result, much land is held on leasehold.
**Leasehold of land.** All land use by mining corporations involves leasehold arrangements granted by the nation state under the relevant mining or petroleum act. In Papua New Guinea, an Exploration License, Special Mining Lease, or Mining Lease is normally granted only where a Compensation Agreement between customary landowners and the exploration or mining company has been registered by the Registrar of Tene­ments in the Department of Minerals and Energy (Mining Act sections 157-160). In Solomon Islands, granting of a Reconnaissance Permit, Pros­pecting License, or Mining Lease normally requires written consent of customary landowners, (Mines Act sect. 4) and the Director of Mines is to identify customary landowners and to assist in negotiations for access and for compensation (sect. 21). In Vanuatu, the holder of a Mining Right is normally required to reach agreement on compensation with customary landowners (with disputes settled by the Lands Referee) (sect. 75).

**Definition of “land” and “mineral rights.”** In Papua New Guinea the Land Act and the Land Groups Act vest property rights that have not otherwise been assigned with customary or traditional landowners, while providing for state assignment of access for declared public purposes (such as exploration or mining development in the national interest) (Mining Act sect. 1). Similar provisions for the public interest apply in Solomon Islands (Mines Act sect. 31) and for public purposes in Vanuatu (Mines Act sect. 77). Mining legislation for all three Melanesian nations vests in the national state all minerals and petroleum property rights (Papua New Guinea Mining Act sect 5, Solomon Islands Mines Act sect. 2, Vanuatu Mines Act sect. 2). Exploration licenses and mining or petroleum development leases are granted by the national state under these legislative assignments of property rights. In Papua New Guinea this constitutional framework for the assignment of property rights has been continuously contested by customary landowners who do not comprehend or who reject its rationale, and by provincial governments and other interest groups who seek access or increased access to surpluses generated by mining activity.

**Conflict in definition of property rights.** Most customary landowners have a holistic perception of land and do not embrace the distinction between mineral property rights vested in the state and (surface) land rights vested with customary landowners. This means that the definition of “land” applied by the state is culturally alien to most customary landowners and sits uneasily with indigenous notions of “land.” As a result, compensation claims by customary landowners for mining of customary land usually implicitly conflict with legal and constitutional property
rights (and are one of the complications encountered in forming and in sustaining land-use contracts for mining).

**Governments**

*Functions of Governments*

Under the heading of "what the parties bring to the contractual setting," the distinction between earned and unearned incomes was made. The concepts of rents and of earned incomes are relevant for assessment of contributions by governments to the stabilization of contractual environments. Where the activities of governments shift away from rent-seeking and away from spending that does not further the proper functions of governments, governments thereby help to stabilize contractual environments.

The functional contributions of governments to enterprise value-adding activities are briefly described in terms of providing an overall stable contractual environment; the delivery of public services such as public administration, police, and defense; and the delivery of public infrastructural goods and services such as transport and communications networks, public education, etc. This large field encompasses the whole range of policies and strategies of governments. This section expands the ways in which governments establish, shape, and maintain recognized or shared codes of conduct that have a sufficient measure of agreement and are sufficiently enforced to form an overall stable contractual environment.

**Institutional Framework**

Without institutions, one has a crowd rather than a social group. Without institutions of the state, one has anarchy rather than a nation. Politicians and public servants need a sharp sense of the concept of social institutions, because this concept is key to their function or job. That is, it is the job of governments, politicians, public servants, and police and the defense force to foster the formation of the institutions of the state (or of the province or the local government area) and to shape and maintain these institutions. This job is undertaken in an international context and involves the formation, development, and maintenance of internationally recognized codes of conduct.

These social institutions need to represent recognized or shared social arrangements that have a sufficient measure of assent both internationally
and within Papua New Guinea, Solomon Islands, and Vanuatu. This involves governments in a process of cultural education and development.

**Education in Cultural Adaptation**

Overseas persons and corporate entities undertaking economic activity in Melanesian nations need to be helped to understand Melanesian adaptations of British, Australian, or international social institutions involved in the conduct of business. Melanesians entering markets that are organized at levels of local area, province, nation, and internationally need to be helped to recognize the need to enter into new codes of conduct that are necessary to the successful conduct of business in national and international settings. This needs to start with education of the primary concept of a contract.

**Concept of a Contract**

The anthropological record of indigenous cultures in Melanesian nations reveals that even where agreements have been reached through prolonged encounter and witnessed by solemn and public assent and ritual, these agreements still represent the state of affairs and even of emotions at the times and places of their articulation. Agreements are a mobile consensus that may always be put to the test. Changes of circumstances, of times, of places, and of emotions may be sufficient cause to repudiate an agreement.

The phenomenon of "soft promises" is a human characteristic that is not peculiar to Melanesian societies. Generally speaking, however, promises are less "soft" where the parties share objective ethics—such as, You shall not lie (you shall speak the truth). Ethics in indigenous Melanesian societies tend to be more relativistic—such as, You shall say what you think people want to hear. So simple a comparison between objective values and relative values is facile, and all cultures and all people exhibit characteristics of each of these simplified extremes. The contrast between the extremes of "objective" values and "relative" values is made in order to link these with the notions of structured and unstructured societies.

With *structured* societies, value systems are expressed in shared codes of conduct that "structure" these societies—such as, People observe the law and obey police officers; police officers obey the law and obey the lawful directions of their superiors, etc. With *unstructured* societies, value systems are less expressed in the "structure" of societies and are more expressed "relationally"—such as, People make sure that you maintain reciprocity so that no one gains an upper-hand over you.
On this simplification, structured societies depend upon shared codes of conduct that express objective notions of right and of wrong (of morality). Unstructured societies depend upon codes of conduct that are worked out relationally in the microcosms of local societies and that express the particular interpersonal balances of particular societies. These particular interpersonal balances are "relational" and "contextual" rather than "structural" and tend to express relative notions of right and wrong (of morality).

Although "structured" societies may vary (for example, Christian societies as compared with Islamic societies), unstructured societies are marked by their specificity. The "unstructured" nature of Melanesian societies (for example, as compared with more structured Polynesian or Micronesian societies) means that the concept of agreement between parties has much more fluidity. Promises may be so "soft" that one may declare, *There is no such thing as a contract!*

Recognition of this difficulty sharpens appreciation of the educative functions of governments in creating and stabilizing contractual environments. The very notion of a contract and of the honor that is involved in keeping it needs to be explained. The instability and economic and social losses that arise from not observing contracts needs to be explained. And the rights of the parties within the bounds of the law to enforce contracts needs to be explained.

*Education about Contracts*

This educative process is assisted where contracts take written or documentary form. This was impressed upon the author during his visit to the Porgera mine, where a significant part of the job of a university-educated local Engan was constantly to show copies of the contract document to members of the local landowner groups and to remind them of the specific terms of the contract and to explain the application of these to customary landowners. This contract was sealed in January 1988 by 23 Porgeran men—5 who signed their names in script, 11 who signed their names with unsure individual formation of the letters (that is, in unsure print), and 7 who attested the document with inked thumbmarks. The example shows the educative job undertaken by a corporate employee, but it serves to show the educative aspect of the job of governments in creating and stabilizing contractual environments.

That educative work needs to be undertaken in ways that do not make unrealistic assumptions about prior understanding and that brings un-
derstanding of the nature of the contract and its benefits (and its costs) in ways that are accessible to people whose exposure to this cultural form may range from almost total unfamiliarity to sophisticated although not fully informed.

**Education about Law**

Most states in varying degrees fail their responsibilities of public education about the legal institutions of their societies and of due legal procedures within these institutions. And the extent of failure in the processes of education and of legal and cultural adaptation may be measured in the varying degrees of stability or instability in different nations, and in the upholding of the law or in disregard and disrespect for the law. In Papua New Guinea, Solomon Islands, and Vanuatu, continuing education about the legal institutions of the nation and how the people justly participate in the maintenance and the development of these institutions is crucial. There are most encouraging signs in these nations of growing appreciation for the law—yet, for the greater part of the populace, the institutions of the law are not well understood (not even understood in outline).

Without understanding, assent is not possible. And without assent one does not have recognized or shared codes of conduct having a sufficient measure of agreement—one does not have self-reinforcing legal institutions or internal (endogenous) processes of law enforcement. Recent examples of Melanesian adherence to constitutional processes have provided headline-making examples of significant achievements in promoting the rule of law and public understanding of indigenous legal processes.

**Respect for Law—Non-discrimination and Impartiality**

Respect for law implies that the law has its own integrity and that the law applies to everyone (to parliamentarian and to villager, to police officer and to villager). Respect for law also implies that the law applies equally and without discrimination (one law for Europeans and for nationals, one law for one language group and for another language group, one law for men and for women, etc.). In Melanesian cultures, the concepts or notions of equality before the law and of non-discrimination before the law may be undeveloped. Melanesian cultures are highly particular, and discrimination is a way of life: people are treated preferentially according to kinship or other relational ties, according to sex, etc.
The notion that an officer of the law (magistrate, police, prisons, defense, etc.) cannot favor people by kinship, clan relationship, or sex, etc., is strange to the indigenous cultures of Papua New Guinea, Solomon Islands, and Vanuatu. Respect for the law involves understanding and valuing the concept of impartiality in legal administration and of the necessity for even-handedness in the conduct of officers of the law.

It is common in many and varied situations in Melanesian nations for people to call for "fair" treatment (whether in respect of job promotions in the workplace or in police administration of civil order, etc.). The prevalence of these calls itself constitutes a call for and an expression of desire for cultural development. This process of cultural development involves conflict. Indigenous institutions involve preferential treatment according to kinship or clan (the wantok system in Tok Pisin and man blong sem alean in ni-Vanuatu Bislama). This gives rise to conflict between the partiality of the wantok system and the impartiality of the law. The presence of corruption in the practice of the law in any society shows the essentially human side of this conflict (conflict that is not peculiar to Papua New Guinea, Solomon Islands, and Vanuatu). But the sharpness of the conflict is marked in Melanesian nations and so makes more pressing public education about the need for impartiality before the law. This education should specially focus upon the formation, reformation, and implementation of codes of conduct for members of legislatures, judiciary, police, prisons, defense force, etc. Development of respect for the law has to start first with the officers of the law.

Respect for the law is a necessary condition for the gaining of public assent for the law and is a necessary condition for just enforcement of the law. Achievement of respect for the law is greatly eased where the concept of law is understood and the law gains validity and credibility from the education of good example.

**Law and Contracts and Development Forums**

The recent use of Development Forums in Papua New Guinea presents significant possibilities for:

- adapting the process of forming contracts to the particular cultures of the contract parties;
- educating the parties about the nature of contracts and the law;
- assisting the achievement of increased shared content; and
- strengthening adherence to procedures for enforcement of the law in general, and of contracts in particular.
Corporations

Expected Net Returns and Risk

The key concept of net present value of a stream of returns from an investment project was earlier treated under the sub-heading, "assessing value-adding." Both value-added and net present value were described as expected value-added and expected net present value. The key concept of expected value needs further explanation.

During the construction phase, streams of net expected returns (gross returns over time, less gross outlays over time) are at first negative. These then shift toward positive values as the mine becomes operational and are positive for the operational duration of the mine. This stream may extend over perhaps two decades. Use of a discount or interest rate gives an estimate of net present value of the stream of returns.

Should this stream of returns be known with certainty, then the problem of expected values does not arise—because probability for the value in the stream of net returns is taken as 1.00 (that is, equal to "certainty"). It is more common for investors to assess different scenarios with different distributions of possible outcomes (that is, different probability distributions). The wider the spread in the probability distribution of net outcomes, the greater the uncertainty or riskiness of outcomes. That is, increases in the variance of expected net returns involve increasing risk. (This explanation is amplified in McGavin 1993.) The following points should be noted:

- Reduced assessment of risk because of increased confidence about the stability of mining operations (and thus of revenues from mining) would favorably alter the probability distribution for the spread of possible gross returns and result in higher estimates of expected net present values.
- Reduced assessment of risk because of increased confidence about the stability of provisions for payment of unearned incomes (such as royalties, taxes, and compensation claims, etc.) and other outlays would favorably alter the probability distribution for the spread of possible gross outlay outcomes and result in higher estimates of expected net present values.

Practical Implications—Land and Minerals Property Rights

The practical implications flowing from consideration of the concepts of land and minerals property rights, permanent transfer (sale) and tempo-
rary transfer (lease) and the definition of land property rights or ownership also involve institutional adaptation and administrative reforms that foster public assent for land law and just enforcement of land law. The key agenda items are:

- concerted public education about the legal concepts, their meaning, and rationale;
- high priority for the process of registration of customary land ownership, and reform of its administration and documentation;
- integration of customary landowner agreement within the overall process of contract formation for mining development; and
- integration of means for contract review and contract enforcement within this overall process of forming and sustaining contracts for mineral resources development.

Implementation of these points may in practice be involved, tedious, and hazardous. The success of institutional adaptation and administrative reform will be assessed by the enhanced efficiency of contractual processes and the stabilization of contract outcomes.
Mineral Resources Development and Macroeconomic Strategy

Introduction

The phenomenon of one leading sector influencing the demise of other economic sectors is extensively treated in economic literature and has been popularized by the term “the Dutch disease” (which metaphor refers to the retarding effects of mineral resources development upon other economic sectors as documented in the case of North Sea gas development upon other sectors of the Netherlands economy). These retarding effects may be treated at a simple story-telling level—as encountered by the author when he observed a luckless Highlands plantation manager faced with the fact that business arising from minerals developments in the Southern Highlands and Enga provinces resulted in an acute shortage of road transport in Mount Hagen so that he was unable to obtain a truck to transport a consignment of coffee to meet a shipping deadline at Lae. The retarding effects here treated focus upon the exchange rate and policies for broad-based economic and social growth and development.

Strategy for broad-based development. This focus follows from the conviction that without a macroeconomic strategy for broad-based economic and social growth and development, policy management for stabilization of contractual environments will fail. Success in economic and social growth and development in Melanesian nations depends upon widening the scope of participation by the people in the changes occurring in national life. Macroeconomic policies that allow or even foster the concentration of economic and social growth and development in restricted areas or enclaves without strengthening links with the rest of the economy and society are policies that set conditions for instability. The security of the nation is served by seeking diversified and broad-based change. Exchange rate and other policies that harness mineral resources development need also to foster national broad-based development. Because of its contemporary significance, the case is argued with reference to Papua New Guinea. But major mineral resources developments in Solomon Islands or Vanuatu would make the arguments applicable to these nations.
**Exchange Rate Effects and Other Sector Impacts**

Papua New Guinea at present has a fixed or pegged exchange rate policy. Mineral resources extraction places stresses upon the domestic economy as a result of additional demands (such as for transportation services and skilled labor services). On the other hand, mineral resources development provides additional public revenues that translate into additional expenditures at national, provincial, and local area levels. Where the net impact involves increases in domestic prices with a fixed exchange rate, this means that domestic prices rise relative to world prices. As a result, appreciation in real-exchange-rate terms occurs (even where the nominal rate of exchange remains pegged).

Mineral resources development has differing effects upon the external accounts of Papua New Guinea according to the stage of mining projects. Current account imports increase during exploration and construction phases (and are a negative influence on foreign exchange balances) but are offset by inflows on the capital account (which positively influence foreign exchange balances). To the extent that the construction phase utilizes value-adding processes within Papua New Guinea (such as metals fabrication, transportation services, and national labor services in construction), capital inflow may exceed the value of resources drawn from overseas—and the net influence will be to increase foreign exchange balances, leading to kina appreciations (or else accumulation of foreign exchange assets).

During the mineral resources extraction or operational phase of mining, current account imports are reduced compared with exploration and construction phases, while exports of mineral resources positively influence foreign exchange balances. Servicing and repatriation of debt and payments of dividends involve outflows of foreign exchange earnings. The net influence is appreciation of the kina (or accumulation of holdings of foreign exchange). Accumulation of foreign exchange reserves beyond desired levels is costly, because it involves foregoing economic opportunities available through the importing of overseas goods and services for consumption or for capital formation.

Where exchange rate changes are discretionary, the extraction phase of mineral resources development implies revaluation of the kina. The divergent effects of appreciation or revaluation of the kina on different incomes units are now considered.

*Mining corporations.* As multinational income units that purchase significant portions of inputs in foreign currencies and sell outputs in foreign
currencies, mining companies may be relatively unaffected by Papua New Guinea exchange rate changes. These changes may impinge mainly upon royalty and tax payments (for example, kina royalties would be reduced if they are determined as percentages of kina values).

*Rural producers.* Appreciations operate with a lag to reduce the kina values of exports of rural output that are priced in foreign currencies (as is mostly the case) and operate with little lag to reduce the prices of imported inputs. Because revaluation impinges negatively upon the whole of rural output earnings in kina and positively on only part of kina input costs, net impacts of appreciations are negative for rural incomes (both plantation and cash-cropping).

*Manufacturers.* Where manufacturers are export oriented, appreciations operate with little lag to reduce the price of imported inputs. Where manufactured exports are priced and invoiced in kina, appreciations do not alter kina values. Foreign currency prices of Papua New Guinea manufactured products are immediately increased, and in the absence of offsetting changes one should expect after some lag the reduced competitiveness of Papua New Guinea products to result in reduced sales in overseas markets. That is, appreciations unfavorably influence the international competitiveness of Papua New Guinea value-adding activities, and net impacts of appreciation are negative for exporters of Papua New Guinea manufactured products.

Where manufacturers are oriented to the domestic market, appreciations operate with little lag to reduce the price of imported inputs. Price competition from imported finished products is intensified, with the prospect of reduced market share and diminished import replacement. That is, appreciations unfavorably influence the domestic competitiveness of Papua New Guinea value-adding activities that compete with imports, and net impacts of appreciation are negative for manufacturers directing products to domestic markets.

*Wage incomes.* Appreciations operate with little lag to reduce the prices of imported goods and services (provided, of course, that markets for the importing and distribution are competitive). That is, appreciations favorably influence wage incomes. Organized urban wage labor may be expected to favor economic strategies that lead to appreciations that maintain or increase real wage incomes. These economic strategies do not favor expansion of wage employment.
To the extent that the cost of labor services for overseas persons is reckoned in foreign currencies, foreign or expatriate labor services become relatively cheaper—and the pace of localization may be slowed, and career paths for nationals may be curtailed. Thus there are negative impacts of appreciations for urban wage incomes, but the more immediate effects are positive.

Governments. Although the effects of appreciations on government revenues are complex, the main impact is via those parties that most contribute to government revenues.

Growth in mining exports (and associated currency appreciations) means higher mining company profits—and taxes on profits, dividends, and royalty payments for governments. The position of provincial governments is the same as for the national government because provincial government incomes are mostly redistributions of national government incomes.

Income taxes are largely paid by urban wage employees. A strategy favoring mining development and associated kina appreciations generates little expansion of wage jobs and little expansion of overall wage incomes (that is, the "wage bill" will not much increase). Yet this strategy favors (per person) urban real wage incomes. Urban wage earners are influential electorally but are even more influential by reason of their being more organized and articulate and through direct influence in government bureaucracies.

Thus bureaucratic and electoral influence of organized labor disposes governments to economic strategies that imply exchange-rate appreciations, and the search by governments for unearned incomes from mining reinforces that disposition. On balance, net impacts of appreciations are favorable for governments.

Winners and losers. Some parties gain from appreciations and some lose:

- The impact of appreciations on mining companies may be ambiguous, depending upon whether it is kina or foreign exchange net outcomes that really matter for mining corporations.

- The impact of appreciations on governments and urban wage earners will generally be viewed favorably.
• The impact of appreciations on plantation and cash-cropping rural export producers will be unfavorable.

• The impact of appreciations on export-oriented and on import-replacement manufacturers will be unfavorable.

The distribution of these effects is summarized in Table 1.

Sector impacts. So far, the conclusion is that appreciations will favorably influence governments and (urban) wage labor, and unfavorably influence rural producers and value-adding activity that competes in external markets and that competes to replace imports in domestic markets. Unfavorable influences on rural and urban producers (rural primary industry producers and secondary industry producers) mean that this value-adding activity is dampened and employment growth is dampened.

Mining activity has been argued as value-adding activity. But it is often of an enclave kind that lacks strong links with other domestic value-adding activity. Through domestic terms-of-trade effects and foreign terms-of-trade effects, mining may inhibit other domestic value-adding activity. Mining development involves much less employment growth than does development of rural primary industry and urban secondary industry (McGavin and Millett 1993).

The challenge therefore is to define a strategy that utilizes mining development for the expansion of rural and urban value-adding activity and employment. Such a strategy is one that links mineral resources development with macroeconomic strategy to achieve broad-based economic and social development that contributes to the overall stabilization of national contractual environments. An outline of some key aspects of this macroeconomic strategy follows.

Table 1. Winners and losers from exchange rate appreciation following mining developments

<table>
<thead>
<tr>
<th>Group</th>
<th>Favorable effect</th>
<th>Unfavorable effect</th>
<th>Ambiguous effect</th>
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<tr>
<td>Mining corporations</td>
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<tr>
<td>Governments</td>
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</tr>
<tr>
<td>Urban wage earners</td>
<td>X</td>
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<td></td>
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<tr>
<td>Plantations and cash croppers</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Export or import-replacement value-adding (non-mining)</td>
<td></td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>
Partial Quarantining of Exchange Rate Effects of Mineral Resources Development

Where inward and outward flows of foreign currencies are equal, this implies that the unit of account has no net effect on the resulting rate of foreign exchange. This may be more the case during the development phase of a mining activity. During the operational phase, however, the adoption of a foreign unit of account could mean that operating surpluses would be accumulated by multinational corporations in foreign currencies (thereby reducing foreign currency inflows to Papua New Guinea), and thus reducing the tendency to appreciation or revaluation of the nominal rate of exchange for kina against foreign currencies.

The inhibiting effects outlined above of mineral resources development on the development of other sectors (and for achieving broad-based economic and social development in Papua New Guinea) could be ameliorated by a partial quarantining of exchange rate effects of mineral resources development. This partial quarantining could be achieved by allowing or requiring large-scale multinational and overseas mining companies to undertake certain accounting in foreign currencies (rather than in kina).

This suggestion represents a departure from clause 7 of the 24 July 1990 Mining Development Contract pro-forma issued by the Department of Minerals and Energy and also from sect. 15 and regulations of the Mineral Resources Stabilization Fund Act. The Currency and Financing clause of the Mining Development Contract pro-forma requires mining companies to keep monies on-shore in kina bank accounts (except under conditions otherwise provided). The Mineral Resources Stabilization Fund Act requires the Mineral Resources Stabilization Fund to retain all income taxation, dividend withholding taxation, and dividends on government-owned equity stock from designated mining enterprises in an investment account with the Bank of Papua New Guinea (the central bank). The proposals for off-shore banking in overseas currencies here proposed incorporate safeguards directed to achieving the purposes intended in these on-shore requirements. The following outline suggests the idea of increased off-shore banking for large-scale multinational and overseas mining companies.

Off-shore banking for large mining companies. The currency and financing clause in the existing pro-forma Mining Development Contract specifies restricted conditions, as administered by the Bank of Papua New Guinea, for holding of monies off-shore and in foreign currencies. A key purpose
of these provisions is to secure income taxation, dividend withholding taxation, and dividends on government-owned mining equity stock and to ensure that repatriation of funds occurs only after Papua New Guinea claims have been satisfied. Off-shore banking arrangements could also secure this purpose by requiring banking in authorized foreign currency bank accounts that provide guarantees for freezing of funds where the Bank of Papua New Guinea issues notice of failure to meet financial conditions specified in the Mining Development Contract (as administered by the Bank of Papua New Guinea). These authorized foreign currency bank accounts need not be in a single currency (and mining companies may have a prudential interest in diversifying foreign exchange bank account holdings). For the purposes of integrated accounting, it is however convenient that company records be maintained in a single nominated foreign currency (also governed by the terms of Mining Development Contracts as administered by the Bank of Papua New Guinea).

One possibility that should be explored is to provide for large-scale multinational mining companies to undertake certain accounting in foreign currencies (rather than in kina). Off-shore quarantining of net foreign exchange surpluses from mineral resources development dampens their short-term effects on the kina exchange rate. Because mining corporations are mainly interested in earnings in foreign exchange, incentives for the corporate subversion of foreign exchange accounting procedures are weak.

The following examples suggest the idea:

- international rates of exchange should be used for integrated accounting for overseas inputs and earnings in a single nominated overseas currency (say, US dollars);
- the imported component of capital formation (both physical and human) should be recorded in nominated overseas currency after conversion from country-of-origin foreign currencies;
- the imported component of recurrent operations (both physical and human) should be recorded in nominated overseas currency after conversion from country-of-origin currencies;
- export earnings should be recorded in nominated overseas currency after conversion from earned foreign currencies; and
- funds for procurement of domestic inputs should be transacted at the going rate between kina and the nominated overseas currency.
Adopting these accounting procedures would mean for Papua New Guinea that net earnings of foreign exchange as recorded in kina would be reduced and the tendency for kina appreciations correspondingly reduced. The present practice of the Bank of Papua New Guinea described in the March 1992 Quarterly Economic Bulletin, BPNG 1992:33 involves special concessions under the Foreign Exchange and Gold Regulations whereby export receipts, equity and borrowed funds can be kept in off-shore accounts for the payment of imports, dividends, and debt service. These off-shore accounts are conceptually part of the foreign assets of Papua New Guinea but are not included in the measurement of foreign exchange reserves. Proposals here made extend practice of this kind.

*Off-shore accrual of public monies from mining.* The suggestions made above imply changes in the ways that earned and unearned incomes of government from mining activity should accrue. The following examples suggest the idea:

- taxes on overseas-sourced resources (both physical and human) should be reckoned in the nominated overseas currency and should be calculated as percentages of purchase values;

- mining royalties should be reckoned in the nominated overseas currency and should be reckoned as percentages of sales value;

- taxes on profits should be reckoned in the nominated foreign currency for integrated international accounting by respective mining companies;

- dividends on Papua New Guinea government shareholdings (if any) should be reckoned in the nominated foreign currency for integrated international accounting; and

- all these public revenues from the operations of multinational and foreign mining companies should be paid into off-shore accounts of a National Development Trust administered by the Bank of Papua New Guinea.

For prudential reasons, the Bank of Papua New Guinea may wish to diversify National Development Trust foreign exchange bank account holdings and disbursements. For purposes of integrated accounting, it is however convenient that records of National Development Trust funds should be maintained in a single nominated foreign currency under terms governed by a proposed National Development Trust Act.
With respect to Solomon Islands and Vanuatu, the relevant institutions are the Central Bank of Solomon Islands and the Reserve Bank of Vanuatu.

**National Development Trust**

Perhaps the strongest argument for designating a foreign currency or foreign currencies for accounting by multinational mining corporations is that this strengthens the quarantining of public claims on mining surpluses, because taxes and royalties, profit shares, and compensation payments accrue to Development Trust Funds (national, provincial, and local area)—and thereby minimizes the use of these surpluses for consumption purposes that support the status quo. New institutional forms are needed for containing the harmful effects of mineral resources development in funding unreformed government activity.

The National Development Trust should be formed by legislation enacting a renaming and reforming of the existing Mineral Resources Stabilization Fund. Under its Act the Mineral Resources Stabilization Fund Board of Management is a perpetual corporation consisting of three public servants, including the Secretaries of the Department of Finance and Planning and the Department of Minerals and Energy. The Act provides (with only limited Ministerial discretion) for the Board each financial year to pay into the Consolidated Revenue of the Government of Papua New Guinea maximum sums calculated with reference to provisions stated in the Act (sect. 13). This ensures that public monies accruing from mining are held in an investment account with the Bank of Papua New Guinea and provides for draw-downs only to an extent that sustain the real purchasing power of expected revenue from designated mining enterprises for each of the next five years. These provisions check political interference in the management of these funds and achieve a dampening of fluctuations in financial-year transfers to the government Consolidated (General) Revenue Account with the Bank of Papua New Guinea.

It is proposed that the revenue-smoothing purposes of the Mineral Resources Stabilization Act should be subsumed in the proposed National Development Trust Act and that the stabilization function should be governed by a Committee of the National Development Trust Board whose membership and management arrangements are governed by provisions along the lines of the present Act.
The Mineral Resource Stabilization Fund Act states purposes of promoting national financial stability and the orderly progress of the government's development program. Yet transfers from the Mineral Resources Stabilization Fund to Consolidated General Revenues provide no means of ensuring that public monies from mining are applied to development purposes. Recent experience shows government capital expenditures and outlays on health and education have declined as a proportion of government spending from 19.4 percent in 1985 to 15.4 percent in 1991 (McGavin 1993:Table 4.2).

More secure linking of development purposes of public incomes from mining. The proposed National Development Trust Fund would continue the stabilization function of the Mineral Resources Stabilization Fund. By holding these funds off-shore the proposed National Development Trust Fund would also assist the broad-based development of the Papua New Guinea economy by partially quarantining the tendency for mining activity to contribute to kina appreciation. But an additional key purpose in this quarantining is more securely to link public monies accruing from mining to development purposes of expanding infrastructural investment (such as roads, airports, harbors, and communications) and expanding human capital formation through quality and quantity expansion of education and health services.

The means proposed for strengthening the links between mining and government policies for broad-based economic and social growth and development involve the retention by government of responsibility for formulating and implementing an ongoing National Development Strategy (see below). The National Development Trust as proposed is intended to introduce checks-and-balances in order to diminish the observed tendency to direct public resources from mining to essentially non-development purposes.

The Board of Trustees of the National Development Trust should be chaired by the Prime Minister or the Minister for Finance and Planning and include as members the Leader of the Opposition, a provincial Premier elected by the National Premiers' Council, the Governor of the Bank of Papua New Guinea, the Secretary of the Department of Finance and Planning, and the Chairman of the Papua New Guinea Chamber of Mines and Petroleum (or acceptable nominees for these persons). Government members or members nominated by the government should not form a majority of Trust Board membership.
The pro-forma Mining Development Contract (clause 5) makes clear that recurrent costs for the delivery of services such as electricity and telecommunications, etc., should be charged to mining enterprises on a cost-recovery basis (and the user-pays principle that should be applied to all government services to mining). Thus no transfers to government General Revenues from the National Development Trust should occur, and the whole of public funds accruing from mineral resources developments should be directed to development projects at several levels—local, provincial, and national. Thereby, public rents from mining should be available solely for funding of development programs and should not be available for consumption.

Where resources for development (whether physical or human) are procured from overseas, these resources would be procured from designated project funds in designated foreign currencies. Where resources for development (whether physical or human) are procured within Papua New Guinea, funds would be made available at going international rates of exchange between foreign currencies and kina.

Achievement of this proposal calls for the formation of an ongoing National Development Strategy for implementing intentions for broad-based national economic and social growth and development.

**National Development Trust and National Development Strategy**

Resources available from the National Development Trust would allow the government to implement a National Development Strategy for providing infrastructural capital for development. This strategy should provide for quantity and quality expansion of education at all levels (primary, secondary, technical and further education, and tertiary) for expansion and upgrading of national roads systems, harbors, airports, communications systems, etc.

The strategy need not be conceived in terms of an integrated macroeconomic development “plan.” Rather, inclusion of projects in the National Development Strategy should be supported by cost-benefit studies as an aid to effective and efficient use of resources. Because the evening-up of economic and social growth and development by provinces forms an important aspect of broad-based national growth and development, means should be developed for incorporating assessments of distributional impacts by province into cost-benefit analyses.

While the national government should hold final responsibility for the formulation of the National Development Strategy, the process of formu-
lation should involve a multi-layered consultative process involving members of the Development Forum. The responsibility of the National Development Trust Board should be to ensure that National Development Trust Fund resources are released only for programs within the National Development Strategy that meet Trust criteria as development programs. There should be established rules whereby failure of the Auditor-General to certify expenditure of appropriations for the previous year should automatically lead to progressive reductions in Trust releases to the government. That is, lack of public expenditure control should be penalized by reduced availability of resources.

**Strengthening Mining Industry Links to National Development**

The purpose of the described arrangements is strategically to utilize surpluses and foreign exchange earnings from mineral resources development to foster broad-based national economic and social development.

Improving relative price effects between tradables and non-tradables. The partial quarantining of exchange rate effects will moderate the tendency for appreciation of the kina and reduce the deterioration in international terms of trade (reckoned as the ratio of kina selling to kina buying prices) for (rural) primary and (urban) secondary industries. This would also reduce the tendency for unfavorable relative price changes between goods and services that are traded internationally and goods and services that are not traded internationally (that is, relative prices between tradables and non-tradables). Thereby, the inhibiting influences of mineral resources development upon development of other sectors will be reduced.

Where mineral resources development leads to increases in prices for inputs that are not traded internationally (such as domestic transport services), deterioration in internal or domestic terms of trade results. The direction of National Trust Fund resources to the development of national human resources through quality and quantity improvement of education and to the development of national roads and communications networks, etc., will offset the tendency for non-traded prices to rise. Favorable effects on the domestic terms of trade (reckoned as the ratio of kina selling to kina buying prices) for (rural) primary and (urban) secondary industries will thereby achieve further reductions in the inhibiting influences of mineral resources development upon development of other sectors.

**User-pays principles for financing government services and fiscal policy implications.** The quarantining of resources accruing from mineral resources
development for financing a National Development Strategy will ensure that the general revenues and expenditure budget of the government will be more constrained within the limits of resources generated by the non-mining national economy. This constraining and discipline would be strengthened by the adoption of budgetary rules that restrict budgetary deficits and monetary financing of government.

Such a constraining and discipline would allow a tightening of the link between government revenues and the delivery of government services. Strengthening this link would assist reforms of government that reduce consumption and waste of resources in government. Strengthening the link between public revenues and expenditures would also strengthen the perception that government resources (revenues) are tied to the delivery of public goods and services (such as desired public administration, desired police services, etc.).

*Overall reform in government finance serves object of broad-based development.* Such reforms in control of government general revenues and expenditures would assist national economic and social development because they involve a shift from consumption and waste in government. Achieving reforms of this kind would be assisted by the proposed National Development Trust. Administration of the Trust along the lines argued would substantially contribute to broad-based national economic and social development.
Stabilizing Contractual Environments: Development Forums

Contemporary events in Papua New Guinea again provide the context for considering policies. Nevertheless, with adaptation, the analysis is applicable to major development of mineral or hydrocarbon resources should these occur in Solomon Islands or Vanuatu.

The protracted instability leading to the closure of the Panguna mine in 1989 gave rise to a renewed search for new institutional forms for forging contractual environments for mining development. Development Forum negotiations involving the national government, the Enga provincial government, customary landowners, and the managing company for the joint venture partners led to the formulation of Approved Proposals for the Porgera gold mine development that were incorporated in the Mining Development Contract and the issue of a Special Mining Lease. The institutional adaptation of the Development Forum was again successfully used in the lead-up to the granting of authorities for development of the Kutubu oil project (Southern Highlands province) and pipeline (Southern Highlands and Gulf provinces). The Development Forum process has not been successfully applied for the natural gas pipeline from Hides (Southern Highlands province) to Porgera (Enga province), nor to the Mt. Kare (Enga province) gold mine.

While the Development Forum process has received a good deal of publicity, this institutional adaptation does not involve alteration of the fundamental constitutional framework. The Development Forum is an informal negotiating instrument. The Mining Act 1992 and the Petroleum Act 1977 of Papua New Guinea provide the legal contractual framework and authority. Approved proposals for mining (or for petroleum) development are approved by the National Executive Council; the Mining Development Contract is between the Governor-General (as Head of State acting upon the advice of the National Executive Council) and the Joint Venture Partners; and the Special Mining Lease is granted to the Managing Corporation by the Head of State of Papua New Guinea acting on the recommendation of the Mining Advisory Board constituted under the Mining Act.
The 1992 Mining Act sustains this constitutional position:

- all minerals are the property of the national state (sect. 5);
- compensation of landowners is restricted to damage or disturbance claims, and no claims are allowable in consideration of entry for exploration or mining, or the value of minerals, or by reference to rents or royalties (sect. 154) (except as provided in the Mining (Royalties) Act 1991); and
- prior to the grant of any Special Mining Lease or Mining Lease, the Minister for Minerals and Energy shall convene a Development Forum to consider the views of those persons whom the Minister believes will be affected by the grant of a mining lease (these persons shall include such persons as the Minister considers fairly represent the views of (a) the applicant for the Special Mining Lease, (b) landowners, (c) national government, and (d) the provincial government in which the proposed lease is situated) (sect. 3).

That is, the new Mining Act retains the exclusive property rights of the national state to mineral resources, while providing a framework that allows for the consultative Development Forum process and for the assignment to customary or traditional landowners and provinces of equity and royalty shares in mining developments.

**Customary Land Titles Registration**

It was earlier observed that notions of property rights over land (and other assets) as applied by the state are culturally alien to most customary landowners in Papua New Guinea and other Melanesian nations. In addition to the need for public education already noted, there is a need to develop institutions in ways that assist contractual arrangements between customary landowners and non-customary leaseholders.

The problem of cumbersome and tardy registration of customary land ownership has been long and frequently remarked by people concerned with the difficulties of access to and transactions in land in Melanesian nations. Part of the problem may be inherent because customary land ownership may be disputed. But part of the problem is inadequate use of available resources of public administration to the function of titles registration (that is, inefficiency) and inadequate resources for this function.

It frequently falls to mining corporations to undertake the extensive research necessary to define property rights and to assist in the formation...
of customary landowner representative groups with whom they may form agreements. The undertaking of these functions by corporations may be reluctant and may lead to unresolvable situations. At Panguna, two landowner associations existed and both used the same name (the original one was comprised of aged men, the new one of young men). At Mt. Kare, two landowner associations existed (the original one having formed an agreement with the company that had gained an Approved Proposal for mining development and secured financing arrangements for the development).

The importance of expediting transactions in land use for national development suggests that resource supplementation from the National Development Trust Fund may be applied to this function. Efficient application would require a national plan for land titles registration and provision for applying task forces to key areas (such as new mineral resources development areas and expanding urban areas).

**Customary Land Trusts Registration and Electoral and Contract Processes**

The fluidity of groups supposedly representing customary landowner interests suggests that the registration process should be integrated with electoral and contractual processes. The electoral processes could be satisfied where customary landowner registration includes the registration of all adult persons having defined landowner interests (with provision for updating on an electoral roll basis). This would allow the explanation of democratic procedures whereby appointment and orderly succession of trustees become matters of codified law. Thereby, elected and registered customary landowner trustees could form the *only* group of persons with authority in law to enter upon contracts for land use. Dispute resolution such as provided for in hearings of the Mining Warden (Mining Act 1992, sect. 108) would be greatly simplified where unique customary landowner representatives are readily identified.

The implementation of clear and participatory electoral procedures for establishing unique trustees for customary landowners would enormously simplify the process of forming contracts and would contribute substantially to maintaining and enforcing contracts (and arbitrary displacement of trustees and contesting landowner groups would not gain status under law).

**Integration into Development Forum Process**

Participatory procedures for establishing unique trustees for customary landowners would also clarify customary landowner participation in the
Development Forum process of contract formation for mineral resources development. Ideally this could also establish procedures whereby accruals to landowners of unearned incomes from mining activity could be paid into Local Area Development Trusts.

The Boards administering Trust funds could be composed of customary landowner trustees, the provincial premier, the Minister for Provincial Affairs, and the chief executive of the mining corporation lease holder (or their authorized nominees). Customary landowner trustees could form the majority on boards administering Local Area Development Trusts. But the presence of other members or authorized nominees should act in the way outlined for the National Development Trust in order to ensure (a) that appropriations are adequately accounted for, and (b) that resources available through the Trust are applied to development purposes that serve local area development strategies.

Arrangements of this kind would assist in the reshaping of the Development Forum into an institution concerned with ongoing processes and would establish the first level of a multi-layered involvement in the Development Forum process.

**Multi-layered Involvement in Development Forum Process**

Multi-layered involvement in Development Forum processes (by corporations, national government, provincial governments, local governments, and customary landowner trustees) is important to the building of wide consensus about the utilization of resources available through mineral resources development for broad-based economic and social development. Such involvement would assist local government councils, provincial governments, and the national government to clarify the contributions that they make to mineral resources development activities.

At present, the early stages of mineral resources development may (for example) involve damage to local roads that were constructed for light traffic and make large demands upon airport and aerial navigational services, etc. Where these services are rendered by national public authorities (for example, airports and aerial navigation), requirements for user-pays costing of services can be implemented (as is provided for in clause 5 of the pro-forma Minerals Development Contract). In other cases (such as the first example of local roads or even national roads), the earned incomes of governments from contributions to mining activities may need to be directed through the Development Forum, and appropri-
ate earned incomes separated from unearned incomes from mining activities.

Such a process would assist in the defining of unearned income shares for the various parties involved in the Development Forum. The direction of these unearned incomes through Development Trusts for the various levels (local area, local government, provincial government, national government) would help build perceptions that opportunities offered by minerals development should not be used for consumption, but rather should be directed solely to development purposes. Layered involvement in Development Forum processes would also assist in coordinating the utilization of these unearned incomes for the overall national development strategy (for example, building of "political" roads not required by road utilization needs could be scrutinized and partially curtailed).

From Simplex to Complex Contractual Forms

The tendency of market processes is toward simplification of contracts to forms that minimize transaction costs. This may be typified in the "simplex" contract form involving two ranked contracting parties (government above, corporation beneath) and a single line linking these parties. This single line represents the contractual instrument. At the extreme, this legal instrument may be virtually unsupported by face-to-face or social relations. Signatories to the instrument (such as Governor-General and mining Managing Director) sign in defined legal capacities.

This contrasts markedly with Melanesian cultural patterns where written contractual instruments may be absent and where complex and sustained or episodical face-to-face encounters are formative of relationships. These encounters may involve many persons within clans or across clans. Moreover, these encounters are unranked and generate a "complex" criss-crossed and multiple relationship.

The adaptation of layered involvement in the Development Forum process involves transposing elements of both the simplex up-and-down contractual arrangements of international market culture and elements of the complex unranked social arrangements of Melanesian cultures. This transposition brings elements of both the complex criss-crossing and multiple unranked face-to-face encounters of Melanesian contractual forms, and of the simplex and ranked legal instrumental form of international market contractual arrangements.
The ranked government-corporation contractual instrument thereby becomes an axis that is supported by other ranked contractual instruments between national government and provincial government (or governments) and customary landowners (or customary landowner groups). These multiple ranked relationships involve greater significance for face-to-face and ongoing encounter, and formation of these relationships involves criss-crossing and multiple encounters between national government, mining corporations, provincial government, and customary landowners.

A further point to note is that all parties involved in such complex contracts should act within defined legal capacities. The representative capacity of customary landowner signatories should be defined through customary landowner trust electoral processes, and all signatories—whether Governor-General, mining Managing Director, or customary landowner Trustees—should act in defined legal capacities. These respective capacities are, in turn, supported by further multiple face-to-face encounters (for example, between customary landowner trustees and communities, and between members of the National Executive Council and the National Parliament, etc.). (McGavin 1993, 1994 give fuller expositions.)

Integration of Development Forum Process and Contract Process

Widening the number of parties involved in the process of contract formation involves large transaction costs that mining corporations (and especially mining corporation parent firms) would be disposed to curtail. These costs are both the direct costs of involved negotiation (requiring high-level expertise, considerable research back-up, and logistic support,) and the indirect costs incurred as the project phases preceding minerals extraction are prolonged. Any economic decision involves a weighing of costs and benefits and choosing the most favorable outcome. Proposals that imply increased transaction costs of contract formation therefore imply proportionately larger increases in benefits from the stabilization of contractual environments.

Benefits have already been argued in terms of directing unearned incomes through Development Trusts to development purposes. Benefits are also anticipated through direct contributions to the stabilization of contracts. The process of contract formation here argued involves the building of institutions that are participatory in the manner of operations and that build complex social relations between the participating parties that support legal relations. Processes involving complex and participa-
tory social relations do not provide proof of contract stability. But they do engender institutions of social control that serve to reinforce agreements and make it less likely that individual parties will successfully undermine contracts and less likely that individual parties will seek legal processes for contract enforcement.

The original Panguna mine contract provided for re-negotiation at seven-year intervals. The absence of a multi-layered and complex institutional process allows political distractions that face national or provincial governments to permit contract roll-over without re-negotiation. Complex institutional arrangements increase the range of interest groups for sustaining contractual procedures. There, of course, are also dangers because parties may attempt to use changed circumstances to force fundamental changes not envisaged in the original contract. But if the original contracts encapsulate complex participatory agreement and set renegotiations within established boundaries and procedures, the prospects for ongoing stabilization of contracts would seem to be reinforced by integration of contract processes into Development Forum processes.

**Legislative Safeguards to Contracts**

Fostering the institutional arrangements as described above would make less likely the resort to non-contractual processes. The emergence of contesting customary landowner interest groups at Mt. Kare led to the curtailment of Development Forum processes before the signing of the Mining Development Contract. The procedures here outlined seem preferable. From what has been said, recourse to imposed contract provisions is particularly hazardous in situations where opportunities for sabotage are substantial. Nevertheless, situations may arise like those encountered in the Hides Gas Project, where the multiplicity of customary landowners along the 70km length of the proposed pipeline raises extreme difficulties for success through consensual processes.

These cases show the need for back-stop legislative safeguards and enforcement capabilities that may be available where national development interests finally require an imposed determination of contract provisions. This recognition is represented by the ranked axis role of the national government (McGavin 1994).


The integration so far considered, though desirable, is somewhat static. Development Forums, as these have so far been experienced in Papua...
New Guinea, have tended to operate for the purposes of reaching initial agreements leading to contracts and the issuance of a Special Mining Lease. That is, they have concentrated on the set-up phase of bringing mines into operation. But genuine success is assessed on a longer time horizon. From a corporate viewpoint, successful mining may require contract stability over a 20-year mine-life. From a national viewpoint, success of mining development depends upon ongoing contributions for achieving broad-based economic and social development. There is therefore a need to view policies for the stabilization of contractual environments in dynamic settings.

The National Development Trust idea is an attempt to dedicate surpluses accruing to governments from mining to the purposes of national development and to avoid inhibiting terms-of-trade influences from mining development on the development of other sectors. The success of these arrangements would depend upon the formulation of an effective National Development Strategy so that resources for development are effectively and efficiently applied to those ends. These purposes would be fostered by the integration of the Development Forum process and the contract formation process with the National Development Trust and National Development Strategy processes.

**Fostering a Sense of Dynamic Processes**

Policies for the stabilization of contracts need to be viewed in dynamic settings because the very nature of development is dynamic. Papua New Guinea societies are disposed to take this period and somewhat static views of situations. This tendency is manifest in attempts by some parties to gain income shares "up front" (that is, early in the contract duration).

Customary landowners are particularly likely to exhibit stronger preferences for present consumption than for expanded future command over goods and services. That is, economically speaking, some parties (such as customary landowners) are likely to have higher time-discount-rates than other parties (such as mining corporations that are accustomed to maximizing decisions involving time horizons stretching over decades). Where one party (such as customary landowners) takes rewards up-front, these rewards may have been consumed and forgotten in future periods when other parties (such as mining corporations) are taking large rewards. This creates circumstances for destabilizing of contracts.

Stabilization of contractual environments requires a participatory involvement of the various contractual parties in nourishing a sense of de-
velopment process that is dynamic rather than static in nature. This requires some refocusing of the Development Forum process and the contract process with the suggested National Development Trust and National Development Strategy. Refocusing and integration of this kind encourages parties to take long-period views and encourages parties to take rewards in ways that integrate with developmental purposes and with strategies for implementing those development purposes.

Achieving these ends requires layered participatory involvement through an integration of set-up contract formation with ongoing contract implementation and orderly contract revision. Thereby, complex and participatory social relations are reinforced, and social institutions are constructed that reinforce the stability of particular and of overall contractual environments and that assist enforcement and orderly revision of contracts for minerals development.

Provincial Development Strategies

The desirability of forming a National Development Strategy so that resources available from the National Development Trust may be effectively and efficiently applied to national developmental purposes has already been outlined. The same principles apply at provincial levels because provincial governments also need to apply cost-benefit evaluation procedures in order to articulate how resources from mining accruing to provinces can be utilized for provincial economic and social development.

This implies that these resources should not accrue as provincial recurrent revenues but rather should be paid into a Provincial Development Trust for each province (with these trusts being administered financially by the same authority that administers the National Development Trust). Each provincial Trust should be controlled by a Board of Trustees and have articulated procedures for forming and for the orderly succession of Trust Board membership. The membership of each provincial Trust Board should include selected local-area representatives, selected local government representatives, the site manager for corporations holding mining leases within the province, the Minister for Provincial Affairs, and the chairman of the Trust Board of the National Development Trust, as well as selected members of the provincial government (or authorized nominees). Provincial government members could form a majority of trustees, but wide representation of other interests is essential to ensure that authorized Trust disbursements are for developmental purposes and
that appropriations are subject to audited expenditure control and accountability.

Integration of the kind described means that Development Forum processes and contract processes may be directed to enhancing the perception of opportunities from mineral resources development for provincial development and for the direction of resources accruing to provincial governments to provincial Development Trusts for the funding of provincial development strategies. Furthermore, this integration allows mutual influences between provincial development strategies and the national development strategy, as well as enhancement of overall coordination of development purposes and their practical implementations.

This enhancement should assist in shifting the desire to take up-front and static gains toward a desire for dynamic and over time taking of gains. Shifting aspirations from static to dynamic perceptions (within a context of ordered provisions for adherence to contracts and ordered provisions for periodic revision of contracts) serves to enhance ongoing commitment to contracts by parties such as provincial governments. This thereby contributes to the stabilization of specific contracts and of the contractual environment generally. Furthermore, the layered involvement of other parties in this process further reinforces complex and participatory social institutions so that social institutions that assist the stabilization of particular contracts and contractual environment generally are strengthened.

**Local Government Development Strategies**

Analogous reasoning would argue for the formation of Local Government Development Trusts, with similar provisions for Trust administration and development strategies for local government areas and for integration of these with provincial development strategies.

**Local Area Development Strategies**

Customary landowners are likely to have high implicit time-discount rates and to be disposed to take up-front rewards that lead to down-the-track outcomes where few gains from mining development are perceived by customary landowners. This scenario has much potential for destabilization of the contractual environment. For this reason, the integration of customary landowner participation in Development Forum processes and contract processes needs to be built into a layered involvement in dynamic development strategies.
Local area interests should therefore be encouraged to form local area development strategies with Local Area Development Trusts administered along lines already argued (including provincial and local government, mining corporation, and National Development Trust representation on trust boards). These trust funds should be used to direct incomes from local area mineral resources developments for resourcing the implementation of a development strategy for each local area.

**Economic Rationale of Complex Institutions**

The complex and participatory social arrangements here argued contrast with the much simpler arrangements that are involved in British-style "simplex" contracts between mining companies and national governments under the provisions of British-style constitutional and enacted law. The burden of the argument about forming "complex" and participatory institutions for the formation, enforcement, and orderly revision of contracts for mining development is that these institutional developments involve a building-up of processes of social control whereby contracts are maintained and enforced and subject to orderly revision.

Restated in economic terms, these institutional arrangements induce the various contracting parties to internalize the costs to others of behavior that undermines specific contracts and that destabilizes the overall contractual environment (that is, they induce internalization of "externalities"). This may involve, for example, increased recognition by customary landowners of the costs of disruption of mining and of the implications of disruptions for customary landowner incomes from mining; and, for example, increased recognition by mining managements of customary landowner perceptions of disruptive impacts of mining upon local communities and increased search for means of minimizing disruptions as perceived by local communities. Internalization by contracting parties of negative externalities assists the formation and the sustaining of contracts that serve both "private" welfare functions and "social" welfare functions (that is, the welfare functions of corporations or of local communities and the welfare functions of larger societies including corporations, local communities, and national society). Thereby, the microeconomic purposes are informed and modified by macroeconomic purposes, and the social purposes of national development are enhanced.

These modifications should occur at all levels. At the local area level, the procedures here outlined assist in the direction of resources from mining to achieving ongoing local area economic and social development. At the...
national level, the overall development strategy assists broad-based sectoral development by expanding resources for social infrastructural development supporting that development and provides institutional arrangements that stabilize particular and overall contractual environments.
Stabilizing Contractual Environments: Corporate Policies

The classical economic principle of "gains from trade" arises because specialization by people or economic units in the production of goods and services in which they have a comparative advantage means that overall production of goods and services is expanded and costs of production (and thus prices) are reduced. This makes possible trade within localities, within nations, and internationally that allows people to alter the combinations of goods and services that they consume from the combinations that they produce. This principle explains the tendency for corporate economic units to specialize and is the reason underlying the development of modern corporations specializing in mineral resources exploration and development.

What, then, is the justification for mining corporations to widen the scope of business activities? The economic justification may be summarized under four points:

1. Corporate operations in Melanesian nations are often undertaken in environments where market and public administration delivery of complementary goods and services are undeveloped, deficient, and defective.

2. If mining companies do not engage in selected non-core activities, other economic units may not supply the deficiency in the delivery of these goods and services.

3. Prolonged failures in the delivery of goods and services that are complementary to marshaling the opportunities of mineral resources development for broad-based development result in a widening cleft between other sector development and mineral resources development, and this leads to regressive change or stagnation in local, provincial, or national society.

4. Conditions may emerge that threaten the stability of contractual environments in which mining activities occur, that lead to costly disruptions, and that may even result in premature and costly termination of mineral resources development.
Thus, the failure of mining companies effectively to engage in selected non-core activities may give rise to costs that exceed the costs of widening the scope of company activities. Viewed in this way (rather than being an inefficient expansion of activities into areas outside the primary expertise of the corporation), selective widening of the scope of corporate operations may be judged as effectively and efficiently contributing to the undertaking of the primary business activity of mineral resources development.

This rationale has involved use of the term "selected" non-core activities and thus implies that mining corporations should apply some principles in discriminating which activities are avoided, in deciding the balance between various non-core activities, and in deciding the best instruments for implementing corporate involvement in non-mining activities. Some of these issues are further considered below.

**Corporations and Local Area Development**

Typically mining developments are occurring in areas where local people have had very limited exposure to market business activity and where human resources for recognizing, developing, and managing business opportunity may be only nascent. Without this assistance, business displacement of local area people by more aggressive, experienced, and equipped incoming groups seems likely. Attempts to narrow the cleft between opportunities engaged by local area people and other groups serve to reduce tensions and to foster ongoing development involving local area people. Properly managed local area business advice may therefore be justified as functional to the primary corporate activity of mining and as enhancing the strategic use of mining development for assisting broad-based economic and social development. All mining companies in Papua New Guinea have in some degree engaged in interactive relations with local area people. Similar relations seem in prospect with the (relatively small) Gold Ridge development on Guadalcanal, Solomon Islands.

**Local area development business advice.** It is now typical for mining companies to have an officer with the relevant expertise and cultural experience, along with support staff, dedicated to offering business advice to local entrepreneurs in order to increase participation by local area people in commercial developments flowing from mineral resources developments. (Moreover, clause 13 of the pro-forma Mining Development Contract used in Papua New Guinea requires mining corporations to offer local area business development advice.) There are certain dangers in
this—such as where jealousies and conflicts arise because undue positive discrimination is extended to local area persons (with results that retard the development of business acumen and lead to ineffective and inefficient ancillary business activity) and where business failures are attributed to the mining company and give rise to recriminations, etc. These dangers suggest that local area business advice by mining corporations should be somewhat at arms-length from the operations management of mining activity (or even is contracted-out to qualified consultants). Cultivation of robust local area businesses requires that essential business principles should not be compromised.

Direct corporate local area activities. Direct corporate activities in local or contiguous areas may involve trust funds that were not anticipated during initial agreements. An example is the Fly River Trust that has company, provincial government, local government, and local area community members and is funded by and under the chairmanship of an executive of Ok Tedi Mining Limited (OTML). The original Mt. Fubilan mining agreement and license involved construction of a tailings dam. The near-completed dam was, however, destroyed as a result of a landslide upstream in the Ok Tedi River. This so altered project costings that a requirement for reconstruction of the tailings dam would have led to abandonment of the project, and operations were allowed to continue with direct discharge of effluent into the Ok Tedi. This led to far more extensive environmental effects extending into the Fly River. OTML responded to this and other Fly River environmental impacts (such as those caused by vastly increased barge traffic on the river) by funding a trust under administrative arrangements to ensure that resources are directed solely to community development projects for peoples along affected areas of the river.

Reinforcing development purposes and contractual environments. The fact of direct and indirect means by which customary landowners may share in benefits from mining developments makes important some practical application of the distinction earlier made between incomes that are not properly regarded as unearned (as is the case of compensation for opportunities or amenities foregone) and incomes that are unearned. There will be a tendency for customary landowners to attempt to "double dip" unearned incomes by gaining direct access to resources made available from mining development and by gaining access to resources through Local Area Development Trust funds that accrue from local participation in mining royalty payments and/or dividend payments. Institutions involving complex and participatory social relations of the kind suggested
should assist local customary landowners to understand the scale and
the range of benefits that accrue to local people and should assist local
customary landowners through duly appointed representatives to favor
decisions that foster ongoing local area development.

*Project tying of unearned incomes and other incomes from mining.* Some cus­
tomary landowners have been particularly insistent upon taking out re­
wards in the form of infrastructural development. Misima Islanders are a
case in point, and Placer Pacific has responded to customary landowner
aspirations by direct application of compensation payments to island
schools and roadwork developments.

*Apportioning unearned and other incomes and Development Trusts.* There
currently is a tendency to shift larger proportions of royalty payments
from the national government (through the Mineral Resources Stabiliza­
tion Fund in the case of Papua New Guinea) to local customary land­
owners (McGavin 1994:Table 3). If anything, this increases the need to
build-up institutional forms that ensure that unearned incomes and other
incomes are directed away from consumption and toward development
purposes. The tendency to shift increasing proportions of unearned in­
comes to customary landowners increases the need for corporate in­
volve ment in the formation and in the operation of Local Area Devel­
opment Trusts.

The Mines Act of Vanuatu includes specification for payment of portions
of royalties to customary landowners and to the relevant Local Govern­
ment Council (sect. 67). The Mines Act of Solomon Islands provides that
royalties shall be directed to a Special Fund from which the Minister for
Natural Resources may order payments to customary landowners
(provincial governments are not mentioned) (sect. 45). No legislative
provisions appear for ensuring the Special Fund payments are for devel­
opmental purposes (though regulations under sect. 80 could so provide).

The constitutions of Trust Boards of Local Area Development Trusts
should ensure that:

- resources are properly administered through the trust board of the
  National Development Trust;
- the business expertise and relative disinterestedness of mining
corporations is present in trust board decisions;
- trust board decisions are appropriately informed about direct cor­
  porate activities directed to local area societies;
• trust board decisions are appropriately informed about local and provincial government activities and aspirations;

• legitimate representatives of local area customary landowners have a clear voice in the disposition of trust resources.

It is crucial that Local Area Development Trusts should relate to the Development Forum and to the mining contract process and relate forward to local area development strategies and to enforcement and orderly revision of contracts. The key purposes of this integration are:

• to shift from simplex to complex social institutions in order to reinforce the internalization of conflict control and resolution, leading to ongoing stabilization of specific contractual environments; and

• favorably to influence choices that shift unearned incomes away from consumption and toward the achievement of broad-based and ongoing development that assists stabilization of specific contractual environments and of the overall contractual environment.

Corporations and Local Governments and Provincial Governments

With appropriate adaptations, what has been argued with reference to local areas also applies to local and provincial governments. The same problems arise about diversification of corporate activities, separating earned and unearned incomes, avoiding double-dipping, building-up institutions for effective and efficient utilization of resources, and reinforcing developmental purposes.

The problem of diversification of corporate activities becomes particularly pointed where corporations may be faced with local government and provincial governments that are marked by ineffectiveness and inefficiency in the delivery of infrastructural services. The problem of schooling in Tububil in 1990 may be cited as an example of these difficulties. The international school and the provincial primary and secondary schools were all constructed by OTML as part of the mining town urban development (as required in Papua New Guinea in Approved Proposals for Development as incorporated in the pro-forma Mining Development Contract, clause 5). Children of management staff attend the international school and enjoy Australian educational standards, while children of general staff and local area children attend schools under provincial government direction. The pupil: teacher ratio in the provincial pri-
mary school was approaching 50:1 in 1990, and there was little evidence of responsiveness to the demands of this situation by Western Province education authorities. This degeneration directly affected the educational formation and social mobility of local area children and also retarded the educational opportunities of children of non-managerial OTML staff (and was a source of dissatisfaction among general staff).

The reluctance of corporations to become involved is understandable. Even acknowledging that corporate delivery of infrastructural services would markedly improve the quantity and the quality of those services, it would amount to corporations assuming the functions of local and provincial governments—functions that are already funded (in the case of provincial governments, substantially funded by national government monies that are sourced in revenues from mining activities) (McGavin 1993:Table 4.4).

The push for direct provincial government shares in resources from mining activities may provide occasion for some remedy of such situations (remedies that could also find application at local government levels). Reconstruction of the Minerals Resources Stabilization Fund as a National Development Trust Fund provides a framework already outlined for channeling resources into Provincial and Local Government Development Trusts that could help rectify this problem. This is not an argument for double-dipping (whereby provinces receive funding directly from mining corporations in addition to receiving national government grants financed indirectly through revenues deriving from mineral resources developments). Rather, the suggested institutional arrangements could be utilized to achieve project tying of provincial government incomes (and local government incomes). Thereby it seems more likely that resources would be directed to purposes intended by provincial assembly appropriation acts (and local government equivalents) and expenditure control strengthened. These appropriations in turn should be informed by development strategies of provincial and local governments.

Corporate involvement at contract formation stage and throughout the project life in Development Trusts for provincial and local governments would in some ways complicate the conduct of corporate business but would also bring the benefit of enhancing the effective and efficient delivery of infrastructural services. This enhancement should be expected significantly to impact upon experience of broad-based development in provinces and in local government areas—with favorable implications for stabilizing specific and overall contractual environments.
Corporations and National Government and National Development Strategy

The conduct of governments in answer to interest group pressures rather than in response to electorates is a sign of corruption in government. It is therefore important that the role of mining corporations in public affairs should not undermine the constitutional and democratic orders in Papua New Guinea and in Solomon Islands and in Vanuatu.

It is not envisaged that the involvement of mining corporations in the National Development Trust or in the formation of a National Development Strategy should involve the exercise of determinative influence. Representation of corporate viewpoints within public institutions seems less likely to lead to abuses than the exercise of influence through closed-door lobbying activities. In some respects the processes of national government in Melanesian nations are more open than in many countries, and direct consultations occur between governments and business sectors (despite periods of non-communicativeness). A recent example of fruitful cooperation between government and business leaders in Papua New Guinea is the Government Regulations Advisory Committee (GRAC) that made far-reaching recommendations for regulatory reform and streamlining, most of which were adopted and implemented by the national government.

This suggests that there is scope for some representation of mining interests (for example, through the executive of the Papua New Guinea Chamber of Mines and Petroleum) on the National Development Trust and on public forum processes of formulating and articulating the National Development Strategy. The educative process is two-way: mining corporations have contributions to make toward public institutions of Melanesian national governments, and national governments have distinct contributions to make to understandings about the conduct of mineral resources development for mutual corporate and national benefit. Formalizing this consultative process would subject both parties to public scrutiny and increase the control and answerability of the parties. The proposals also provide a regularity in consultations that should assist in keeping agendas short and progressively addressing problems.

The institutional arrangements outlined in this study are not refined to the point of readiness for implementation. The intention is to float ideas that may be fruitful for assisting the process of institutional transformation that allows better outcomes to be chosen and opportunities for economic, social, and political development to be created. Whatever institu-
tions develop they should necessarily be cross-cultural (McGavin 1992b). They will reflect the Melanesian cultural inheritances of Papua New Guinea, Solomon Islands, and Vanuatu—and the changes that are occurring in the cultures of within these nations and in these national cultures. They will also reflect the cultural inheritances of an international world and the changes that are occurring in international culture. In short, they should capture a cross-cultural adaptation that expresses and enables Papua New Guinea to move toward desired outcomes of economic, social, and political development.

National success in an international setting forms the large backdrop in which mineral resources development is undertaken. National success is essential to the provision of an overall environment of contractual stability. That stability cannot be static. It must be dynamic but stable in its dynamism. Corporate policies for the stabilization of contractual environments need to encompass the large scenario of national policy in an international world. Successful corporate policies require public policy content that functionally relates to the national interest of the host nation. Success requires engagement in this process of enculturation whereby codes of conduct evolve and are articulated in visible social institutions that express the cross-cultural nature of doing business in Papua New Guinea, Solomon Islands, and Vanuatu.
Success in an International Setting: 
Government Roles

National Government

National governments have a key role in assisting the processes of cross-cultural adaptation that are necessary to creating national success in an international setting. Exercise of this role involves the processes of building political consent and shared national identity. The constitutions of Papua New Guinea, Solomon Islands, and Vanuatu aggregate and concentrate political power in the nation-state government. Effective exercise of concentrated power reduces transaction costs for national and international market activity and fits easily with international market order. But aggregation and concentration of political power involve great tension with the devolution and dispersion of political power that is characteristic of Melanesian cultures.

Resolution of this tension involves the processes of building identification with and assent for the institutions of the modern state, together with practical adaptations to Melanesian cultural environments. Practical adaptations involve three recognitions:

1. Where people are grouped as local societies, they have less power, and the people are less able to give effect to desires for economic security.

2. Where local societies that are aggregated as nations lack identification with and assent for the institutions of the modern state, the state has less power, and those who are in national political power are less able to give effect to desires for economic security.

3. The trade-off between dispersed and concentrated power is not linear. Up to a point, the surrender of dispersed power increases total power.

Enhanced total power involves reduction in dispersed power and in concentrated power from their initial endowments. But total power is in-
creased. That is, a particular distribution of power between local societies and national society increases overall power. An increase in total power means that economic security is enhanced; in addition more and a greater range of desired goods and services with less variation in provision are available. That is, local societies and national society are more effectual—they are more powerful. (See McGavin 1993, 1994 for a fuller explanation.)

On this interpretation, the Bougainville outcome may be viewed as a failure to achieve adaptation in the distribution of power between the Papua New Guinea nation and the local society or societies. Because the nation is multi-dimensional, and other local societies continue to function in the national context, there has been some diminution in national power and access to economic security (but not a collapse of national government power nor of national economic security). Local society or societies in the North Solomons province have, however, experienced marked diminutions in local power and a collapse of access to economic security other than that available from subsistence means. That is, failure to achieve political adaptation has resulted for many Bougainvilleans a "last state that is worse than the first." The withdrawal of assent to concentrated power (withdrawal of assent to the nation of Papua New Guinea) has resulted in markedly reduced dispersed power or people-power for Bougainville local societies and a collapse of the production function that delivered the economic security desired by Bougainvilleans.

Constitutional Adaptations

The governments of Papua New Guinea, Solomon Islands, and Vanuatu all evoke constitutional assignment of property rights over mineral resources solely to the state. This assignment of property rights fits easily with international market culture, and overseas mining corporations will for reasons of utilitarian economics tend to prefer a simplex definition of the contractual environment. This constitutional position supposedly also provides the safeguard of a legislative framework that allows due processes of legal, police, and defense force maintenance of contractual institutions. Both national governments and international corporations will be unwilling in principle to erode this framework. The Petroleum Bill 1990 and the Mines and Minerals Act 1987 of Vanuatu, the Petroleum Act 1987 and the Mines and Minerals Act 1990 of Solomon Islands, the Petroleum Act 1977 and the new Mining Act 1992 of Papua New Guinea sustain this constitutional principle. The Solomon Islands Act provides
that a representative of the relevant provincial government and of the relevant customary landowners shall sit on the nine-member Minerals Board that assists in negotiation of custom-land access and compensation and advises the Minister on the issue of permits, licenses, and leases under the Act (sect. 10f). Solomon Islands and Vanuatu legislation provide at Ministerial discretion for payment by the state to the relevant customary landowners of a portion of royalties (respectively, sections 45 & 67) and in the case of Vanuatu for payment by the state to the relevant local government council of a portion of royalties (sect. 67).

Development Forums

What the Papua New Guinea government has achieved in recent cases such as Porgera and Kutubu mineral resources developments has been a definition of contractual environments that has involved practical adaptation within the framework of the constitutional principle of assignment of mineral resources property rights solely to the state (that is, within a formal framework of concentration of power). The new Papua New Guinea Mining Act (following a principle in the 1990 Mining (Amendment) Act) allows state assignment of alluvial mining leases to natural persons who are customary landowners in the lease area (sect. 48). The Solomon Islands Mines and Minerals Act 1990 also provides for alluvial mining permits to customary landowners in the permit area (sect. 50f). The new Papua New Guinea Mining Act requires consultation between national and affected provincial governments (sect. 3). But these changes do not erode the constitutional principle of exclusive national state power over mineral resources. It is in the non-formal application of the constitutional principle that adaptation has occurred in Papua New Guinea.

The Development Forum is and remains in terms of principle an informal negotiating institution involving the Papua New Guinea national state, the provincial government or governments, the customary landowners, and the mining development corporation. Although informal and subsumed within the formal framework of national constitutional assignments of power, Development Forums involve a practical redistribution of power.

This practical redistribution of power has increased the power of provincial governments and customary landowners. But (so far, at least) these cases have involved increases of total power. That is, the combined power of customary landowners, provincial governments, and nation
state is increased. And, in consequence, economic security is increased. That this has occurred is apparent from the fact that these new mining developments are bringing Papua New Guinea to a situation where more and a greater range of goods and services and with less variation in provision are available even though the Panguna mine remains closed (Parsons and Vincent 1991:13f, McGavin 1994:Table 2).

The practical lessons from this are that future formations of contractual environments (including possible remaking of the contractual environment for the Panguna mine) would seem best to be conceived within a framework that maintains the safeguards of established constitutional principles, but where practical adaptations allow non-formal redistribution of political power within that framework (and, it follows, allow redistribution of economic security within that framework).

**Education Function**

The first practical application of these principles to national state policy is the educative function of national governments in promoting understanding of and assent for constitutional law. This educative function is probably most effectively discharged by practical demonstrations of the benefits that are available from improvements in economic security through adherence to constitutional principles. This demonstration involves practical adaptations of the kinds experienced in recent Development Forums. These adaptations involve shifts from simplex contractual relations to complex contractual relations. This involves a shift from production of power along a single axis (say, concentrated national government power) toward more effective *multi-dimensional* production of power involving vertical and horizontal axes and axes not illustrated (McGavin 1994). The practice of multi-dimensional production of power itself increases power—as may be seen in increased effectiveness in the delivery of economic security. Clearly, then, public education through practical demonstration of constitutional law in Melanesian nations also calls for dexterity in the art of political practice.

Education about contracts and practical demonstration of the construction and maintenance of contractual environments are concrete examples of promoting constitutional law that have a particular relevance in Papua New Guinea (given the possibilities for mineral resources development in Solomon Islands and Vanuatu (Lum et al. 1991) and considerable potential relevance for other Melanesian nations). Mineral resources development contracts are the most telling case. These contracts are much
in the public eye and the stabilization of these particular contractual environments is critical to national economic security.

Public education and public demonstration of practice by national governments contribute to common recognition of and assent to the codes of conduct that strengthen the construction of contractual environments and the reinforcement or enforcement of contractual environments—in short, contribute to the stabilization of contractual environments. Stabilization of contractual environments increases power as manifest in improved economic security.

National State Contributions to Mining Value-adding Activity

Contribution of provision of contractual environments. To the extent that the principles and practice of constructing contractual environments are successfully undertaken, Melanesian national governments make positive contributions to the value-adding activity of mineral resources developments in these nations. In consequence, success in constructing and stabilizing contractual environments supports increased earned-income claims by national governments against the surpluses generated by mineral resources developments within the nation. That is, success brings its own reward. And because successful construction and stabilization of contractual environments are likely to induce further expansions of value-adding activity through further minerals explorations and developments, the reward is not static but dynamic.

Contribution of provision of human and infrastructural capital services. Successful construction and stabilization of contractual environments for mining development also allow increased utilization of national human capital and infrastructural capital services in the value-adding activity of mining. Securing the contractual environment thus also secures national government claims for the use of human and infrastructural capital (formed through public investment) that are contributed to mining production. This also in principle establishes earned-income claims by national governments against surpluses generated by mining developments within the nation. Earned incomes of this kind increase available resources for the expansion of national human and infrastructural capital, so these incomes also may behave dynamically. The proposed National Development Trust arrangements are an attempt to strengthen links between national government incomes accruing from mineral resources developments and the expansion of national human and infrastructural capital, leading to broad-based and ongoing national economic and social growth and development.
Stable “Rules of the Game”

“Letting it happen.” International comparison with similar nations shows Papua New Guinea to have focused attention on establishing a stable environment in which market development may occur. This relatively “hands-off” approach has recently been further extended in Papua New Guinea through national government implementation of the Government Regulations Advisory Committee (GRAC) recommendations that have greatly simplified the regulatory functions of government bureaucracies and replaced the regulatory National Investment Development Authority (NIDA) with an Investment Promotion Authority (IPA) having a Board including representatives of the Chamber of Commerce and Industry, the Rural Industries Council, the Liklik Businessmanmeri Association (Small Businessman and Businesswoman Association), and the Chamber of Mines and Petroleum (Investment Promotion Act 1991, sect. 9). These promising developments contribute toward sustaining market confidence in Papua New Guinea in the face of the tremors arising from events on Bougainville. Solomon Islands and Vanuatu could well consider the applicability to their economic management of these developments in Papua New Guinea (McGavin and Millett 1993).

Minerals equity and taxation policies. The government of Papua New Guinea also contributes to national mineral resources development by adherence to consistent policies on equity and taxation. Government policy is that taxation of mining and petroleum profits should remain fixed, and the government undertakes to negotiate minority equity participation in mining projects before large amounts are expended on exploration. A 1990 promotional pamphlet by the Department of Minerals and Energy, Papua New Guinea Mineral Resources Development Policy declares, “Policies are fixed, have been endorsed by large mining and petroleum companies, and by large banks, and permit speedy investment negotiations. The ‘rules of the game’ are firmly established and ‘players’ are invited to participate.” Policies along these lines may be suitably adapted for Solomon Islands and Vanuatu and consistently applied in Papua New Guinea.

Fixity of equity and taxation regimes means that the probable distributions of outlay streams are compressed. For given expected gross returns streams, this implies larger expected net returns streams and higher estimates of expected net present values for investment projects. In this way, predictable “rules of the game” reduce business risk or uncertainty and contribute to improved national economic security through market growth and development. Thereby, maintenance of and adherence to stable “rules of the game” contribute to expanded resource use.
Implementing Broad-based Development

It has been argued that increased foreign exchange earnings from mining developments (and also from untied aid) contribute to the deterioration of domestic and foreign terms of trade for rural industries and for value-adding export and import-replacement industries. Without offsetting policies, this favors relative expansions of mining and government activities in national economies—and little growth in market employment and a narrowing of the base of national economic growth and development. This tends to be associated with poor progress in reform of public bureaucracies, with associated expansions of consumption share of government outlays and contractions of the proportion of government outlays directed to national fixed infrastructural and human capital formation.

Two major and related policy thrusts are proposed to tilt the balance against narrow economic growth and development and to assist broad-based economic and social growth and development with favorable implications for growth in market employment. These are the partial off-shore quarantining of earnings from mineral resources development and the dedication of national surpluses from mining to national capital formation.

Partial quarantining of earnings from mining activity. Partial quarantining of unfavorable international terms-of-trade effects of mineral resources development may be achieved by holding corporate and government mining surpluses off-shore in foreign currency accounts. For Papua New Guinea, the proposal involves changes from clause 7 of the pro-forma Mining Development Contract and section 15 and regulations of the Mineral Resources Stabilization Fund Act along lines achieved through concessions under the Foreign Exchange and Gold Regulations of the Bank of Papua New Guinea (BPNG 1992:33). Minimizing direct transfers to kina accounts of foreign currency earnings from mining minimizes deleterious international terms-of-trade effects for rural and import-replacement and export value-adding industries.

The shift in favor of off-shore banking for large mining companies is integrated with a change from on-shore holding of government mining revenues in the Mineral Resources Stabilization Fund Investment Account by the Bank of Papua New Guinea. It is proposed that the Mineral Resources Stabilization Fund Act be replaced by a proposed National Development Trust Act that favors off-shore holding by the Bank of
Papua New Guinea of government mining and petroleum incomes in a National Development Trust Fund. This also helps to minimize deleterious international terms-of-trade effects for rural and import-replacing value-adding industries within Papua New Guinea. These proposals are also applicable to the management of prospective mineral resources developments in Solomon Islands and Vanuatu.

**National Development Trust.** A National Development Trust is proposed as a means of strengthening the purpose of dedicating surpluses from mineral resources development available to national governments to achieving broad-based economic and social growth and development. As argued in Parsons and Vincent (1991:43), minerals developments involve non-renewal depletion of the capital endowments of mineral and petroleum resources of Melanesian nations. It follows that these incomes should be specifically directed to the formation of new capital endowments that will generate alternative streams of incomes that will sustain and improve economic security for the nation, province, and local societies.

The proposed institutional form of the National Development Trust involves diverse composition of the Trust Fund Board membership as a means of fostering wide national recognition of the purposes to which national surpluses from mining are dedicated and strengthening the financial control and review of the direction of Trust monies.

**National Development Strategy**

It is proposed that the national government should use cost-benefit analysis to identify key development projects or programs in a National Development Strategy. Projects or programs satisfying National Development Trust criteria could then be financed by release to the government of dedicated project or program monies from the National Development Trust Fund. Off-shore resources for development projects or programs could be procured through dedicated accounts raised by the central bank (as the Trust Fund banker) directly from off-shore foreign exchange balances. On-shore resources for development projects or programs could be procured by transfer at going rates of exchange to dedicated central bank accounts in kina (or SI$ or Vatu). Adopting these procedures would further support the intention of minimizing adverse international terms-of-trade effects for non-mining sectors. These procedures would also assist in expenditure control and audit procedures (and in the application of Trust penalties in the event of failures in project or program financial control).
Funding a National Development Strategy by these means not only increases replacement of national capital, provincial capital, and the capital of local societies; it also provides the basis for capital formation that assists the development of non-mining industry and directly contributes to a widening of the sectoral base of development. Investment of national mining surpluses for improvement of national infrastructural and human capital formation also increases the ability to get products to markets and the availability of human skills. This improves the relationship between domestic input prices and domestic output prices (or domestic terms of trade) and so offsets the depressing effects on other sectors of adverse domestic terms-of-trade effects resulting from mineral resources development.

The emphasis on "capital" should not be mis-read in purely fiscal terms —where, for example, building a road is classified as government "capital works" but employing more and better teachers is classified as "recurrent expenditure." The terms "capital" and "investment" are not used after the conventions of government accounting but in senses informed by economic analysis. In economic terms, education and research outlays are examples of building productive capacity and are investment outlays. The safeguards provided by the structure of the National Development Trust Board could also allow selected funding approval of pro-development recurrent outlays such as program assistance for supporting agricultural extension efforts by grower organizations.

The proposals locate finally with the national government, the formulation of the National Development Strategy, and the proposing of programs or projects and thus preserve constitutional responsibilities and answerability to the National Parliament. The provisions for financial control and release of resources only for programs and projects satisfying Trust criteria appear to diminish national government power. It does not follow, however, that these proposals should be unattractive to national governments. National governments usually intend to foster national development but are constrained politically in giving effect to intentions. The proposed institutional forms for the proposed National Development Trust are designed to lessen the political constraints on achievement of intentions for fostering national economic and social growth and development.

Institutional development of this kind increases the effectiveness of governments. Effectiveness is actually achieving intended increased national infrastructural and human capital formation leading to improved
national economic security. Practical demonstration of political effectiveness or powerfulness is a powerful means of strengthening political position. On this reasoning, intelligent national politicians should be expected favorably to judge institutional developments that are consistent with improved political effectiveness and with promoting national success in an international setting.

**Provincial Government**

The marked ineffectiveness and inefficiencies of provincial governments in Papua New Guinea (and also in Solomon Islands, and local government equivalents in Vanuatu) in the decentralized delivery of services such as primary schooling and agricultural extension reduce the scope for attributing earned incomes to provincial government sharing in value-added by mining activities within provinces (McGavin 1991). Part of the conflict about mineral resources developments has been the claim that provincial governments have little shares in surpluses from mining. The share of Bougainville Copper Limited surpluses accruing to the national government through taxes and charges in 1988 was 65.8 percent, national government dividend accruals were 10.2 percent, provincial government direct receipts were 3.5 percent, and customary landowner direct receipts were 0.9 percent (McGavin 1993:Table 5.1).

One may anticipate that a negotiated solution through a Development Forum process would derive increased direct shares going to the province and to customary landowners (McGavin 1994:Table 3). But these data do not accurately partition in mining surpluses. Allowance needs to be made for national government budgetary transfers to the province that are not tied to incomes from mining but that are partly funded from access to mining surpluses. Allowance also needs to be made for direct national government provision of public goods and services to the province (and to customary landowners) that are partly funded by access to mining surpluses. Complex recomputations of this kind would somewhat modify the resulting partitioning of surpluses accruing from mining activity. But increases in direct proportional shares to provinces from mining surpluses imply reductions in indirect shares through budgetary transfer from national government general revenues to general revenues of affected provincial governments. That is, provincial governments need to recognize that they cannot "double-dip."

Provincial governments need also to clarify and to improve the functional contributions that are made to mining value-adding activity finally with the national government, thereby increasing earned income claims
against the surpluses generated by mineral resources developments within provinces. Again, however, "double-dipping" should not occur, and provincial infrastructural and other services that are directly supplied by mining corporations imply corresponding reductions in direct financial transfers to provincial governments.

The proposal for Provincial Development Trusts is put forward as an attempt to strengthen the link between provincial government incomes accruing from mining developments and expansions of provincial human and infrastructural capital formation, leading to broad-based and ongoing provincial economic and social growth and development.

Local governments. With appropriate adjustments, these comments may also apply to local governments, as well as to fostering economic and social welfare in local government areas that are directly affected by mining developments. (In Vanuatu, the layer of provincial government is absent, and local governments are more significant.)
Customary Landowners

Customary landowner claims against surpluses from mining activity in custom or traditional land areas are not simply claims for unearned incomes. Local customary landowners bring to the contractual setting claims for subsistence production foregone. These claims represent genuine opportunity costs against mining value-adding activity that are recognized in the governing legislation of Melanesian nations (Papua New Guinea Mining Act sect. 154, Solomon Islands Mines Act sect. 35, Vanuatu Mines Act sect. 75).

Customary landowners also bring claims of physical and social disturbance against mining activity. While these latter claims are opportunity cost in nature, it is useful to think of them in non-recurrent or capital terms (rather than in recurrent cost terms). Viewed in capital terms, incomes accruing from these latter claims should properly be directed to capital reconstruction. This reconstruction involves developing alternative life-styles that will be self sustaining when mining activity and available surpluses from mining have ceased, but environmental degradation from mining remains.

Where viable social and economic alternatives are lacking, landowners may enter fabulous claims against surpluses from mining activity in custom or traditional land areas. Unrealistic opening claims may proceed from several causes including the following:

- unreal perceptions about surpluses available for distribution from mineral resources development;
- confusion between gross and net incomes from mining, and lack of understanding of net incomes from mining in present-value terms;
- markedly defective understanding of the nature of value-adding activity that mining corporations undertake; and
• recognition of possibilities for sabotage of mining activity (along with defective recognition that “killing the goose also kills goose eggs”).

Unless the need to form institutional arrangements that foster development for local customary landowners is strongly brought to the contractual setting, destabilization seems likely. Implementation of the proposed electoral processes for ensuring the appointment and orderly succession of unique representatives for each customary landowner group reduces the possibility of conflicting claims to landowner group representation, as well as reduces the possibility of more than one association speaking for a landowner group. The need for orderly succession of customary landowner trustees under Electoral Office procedures was shown by the Bougainville case, where in December 1987 the Premier of the North Solomons province wrote to BCL “directing” the company to switch recognition from one to another supposed executive of the Panguna Landowners’ Association (Quodling 1991:58). Implementation by national governments of these electoral procedures would help stabilize the contractual setting. This would help ensure that contemporary landowner interests are uniquely represented in the Development Forum at the contract set-up stage and at contract renegotiation.

The proposed Local Area Development Trusts are intended to strengthen links between customary and traditional landowner incomes accruing from mineral resources developments and the alternative construction of the local economy and society (in ways that provide ongoing economic and cultural development for disturbed or displaced customary landowner societies). In short, customary landowners also assume a key role in creating economic security.

Mining Corporations
Symbiosis Between Corporate Success and Host Society Success
Mining companies are engaged in mining for profit. It is the primary responsibility of national governments to ensure that mining activity is consistent with other objectives—such as pollution control and environment preservation (as provided in Papua New Guinea, for example, by the Environment Containments Act 1978 and the Conservation Areas Act 1978). The focus in this study is the need for macroeconomic management to ensure that harmful international and domestic terms-of-trade effects from mining are minimized and to ensure that surpluses available from mining are directed to promoting broad-based and ongoing devel-
development at national, provincial, and local area levels. Profit-seeking mining companies are engaged in businesses with long time-horizons that help recognize that the stability and prosperity of the host society at its various levels (national, provincial, local) is "good for business." The symbiosis between company success and host society success needs constant recognition and fostering by corporate managers.

The institutional adaptations proposed in this study place representatives of mining corporations on the National Development Trust, Provincial Development Trusts, and Landowner Development Trusts, in the belief that professional experience in cost-benefit evaluation of investments and in financial control will strengthen the performance of trust boards. The proposed trusts offer means for transforming mining booms from "mixed blessings" (Parsons and Vincent 1991:23) to "blessings." Making mining more consistent with national, provincial, and local success is "good for business."

Managing Conflict in Cross-cultural Adaptations

The term "cross-cultural adaptation" has pervaded this study. It involves decisions of courtesy, respect, and empathy by people from a dominant culture to act with sensitivity in dealings with people from other cultures. Achieving practical application of this idea will be difficult—both because the cultures of Melanesian nations are themselves in transition and because international mining corporations share the international market culture that is the dominant contemporary culture. International buyers of export products may be quite uninterested in the ways that local cultures impinge upon production costs because often only the product and price matter in international markets.

For people whose cultures seem to be assailed by a foreign dominant culture, the tendency to defensive reaction is strong. Knetsch (1989) makes the point that persons facing loss attach more value to what they have and stand to lose than they attach to what they may stand to gain (that is, valuations will be asymmetrical between what may be lost and what may be gained). This insight helps understanding of the formation of compensation claims for the more verifiable physical or tangible effects of mining activity. But it also applies to non-physical or intangible effects of felt cultural deprivation compared with the prospect of cultural development.

An extreme and tragic example of polarization between international market culture perceptions and Melanesian culture perceptions occurred with the release in November 1988 of the Applied Geology Associates
report on the environmental impact of the Panguna mine. Francis Ona (who later led the Bougainville Revolutionary Army) is reported to have exclaimed, “Logic is a white man’s trick!” Doing business successfully in Melanesian cultures requires that managements of mining corporations sustain a cross-cultural dialogue that averts the polarization of perceptions.

Corporate achievement of cross-cultural adaptation in the conduct of business is nevertheless not simply a matter of what the company “does.” Confronted with the “Bougainville Initiative Fund” proposal by Fr. John Momis, the Managing Director of Bougainville Copper Limited replied, “There are certain legal and statutory constraints under which I am bound to administer the financial affairs of this Company” (Quodling 1991:95). This simplex conception of the contractual environment contributed to Bougainville Copper Limited becoming the “meat in the sandwich.” Proposals for the development of institutional forms that create a complex contractual environment are designed to develop stable contractual environments that are so necessary to business success.

The culture from which the managements of international mining corporations are drawn leads to the expectation that the contractual environment is something “given” in which the company operates according to established rules. In Melanesian nations, this contractual environment is still “in the making.” Involvement in the cross-cultural processes of constructing a stable contractual environment should be engaged by corporate managements as a necessary part of “doing business” in Melanesian nations. In a Melanesian context, apparently “non-core” activities may be “core” activities for business success.

**Cultivating Understanding of Created Opportunity**

Mining managers bring an implicit understanding that economic opportunity is *created opportunity*. A clearer recognition is now emerging that the contractual environments in which economic opportunities are undertaken also are “created.” International mining corporations operating in Melanesian cultures do not simply operate in a “given” environment. Successful business requires active engagement in the *creation* of the contractual environment. The “economic logic” of the dominant international market culture press hard in the process of creating market environments in Melanesia. But success requires compromise and a search for cross-cultural adaptations in the social construction of contractual environments.
There is a direct relationship between profitability and success in fostering stable contractual environments of particular corporations and mining companies together (as represented, for example, by national Chambers of Mines and Petroleum). Reductions in uncertainty compress probability distributions of expected net income flows and increase expected net present values. Reducing uncertainty can change mining prospects from "uneconomic" to "economic" (from unprofitable to profitable). How mining corporations act symbiotically for national, provincial, and local success matters (and matters critically) for success in the mining business.

International Roles

Extensive minerals development is as yet only in prospect in Solomon Islands and Vanuatu and has recently expanded in Papua New Guinea. Australia has a high international profile in Papua New Guinea (and also in Solomon Islands and Vanuatu). The role that Australia played in bringing Papua New Guinea to independence has perhaps heightened a sensitivity to national sovereignty that has influenced an "arms-length" attitude in international relations with these Melanesian nations. All three nations have proven records of national independence and a self-confidence in independence and self-governance. The possibilities now seem greater for further transformation of "aid" to "development assistance relations" with emphasis on "relations."

Untied aid inhibits fiscal and public service reform in developing nations by supporting bureaucracies that are in need of reform and by acting like mineral resources development to expand the government sector relative to other sectors. Accelerating the shift already under way from untied aid to program development assistance and defense cooperation arrangements offers more genuine benefits for Melanesian nations (and for Australia and other assisting nations) and implies change from a relatively "arms-length" attitude to one of genuine engagement and cooperation.

Australian development assistance to Solomon Islands and Vanuatu is in programs that concentrate on education, public infrastructure, agriculture, and tourism while defense cooperation focuses on maritime surveillance, advisory assistance, communications development, and engineering and technical management. Similar descriptions apply to Australian program development assistance and defense cooperation arrangements with Papua New Guinea (AIDAB 1989).
From the “donor” nation viewpoint, increased “hands-on” engagement makes it more difficult to achieve distance when things are not going smoothly. This is an “upside” (rather than a “downside”) because it forces a mutual grappling with difficulties that is part of the “making” of success. There is also a growing awareness that increased development assistance relations with non-government organizations (NGOs) provide a useful counterpoise to an excessively bureaucratic approach to development assistance and makes better contact with “grass roots” development.

**Development Assistance**

The institutional structures for the delivery of public goods and services in Papua New Guinea, Solomon Islands, and Vanuatu were largely developed by Australia, Britain, and France. Prior to independence, grant revenues substantially exceeded internal revenues (McGavin 1993:Table 4.3). By 1990, grant revenues as a proportion of internal revenues was 83 percent for Vanuatu, 36 percent for Solomon Islands, and 29 percent for Papua New Guinea (McGavin 1993:Table 4.5). Internal revenues for Papua New Guinea between 1975 and 1989 were enhanced by taxes and dividends from Bougainville Copper Limited (McGavin 1993:Table 4.4). These aid and mining income streams have allowed the maintenance of inappropriate bureaucracies and inadequate direction of resources to infrastructural and human capital development (McGavin 1993:Table 4.2).

New mining and petroleum developments in Papua New Guinea will more than replace losses in government revenue from the closure of the Panguna mine (Parsons and Vincent 1991:14). Recent Australian policy analysis (for example, NCDS 1989 and AIDAB 1989) has emphasized the need to increase program development assistance and reduce untied or weakly tied aid to Melanesian nations.

**Program Development Assistance for Police and Defense**

Recent Australian policy advice on the need to accelerate the shift to program development assistance has also appropriately emphasized the pressing needs for institutional and human skills development. Program assistance in human capital infrastructural development by Australia includes the Royal Papua New Guinea Constabulary Development Project (under Foreign Affairs, AIDAB funding) and the training components in the Defense Co-operation Program between Australia and Papua New Guinea (under defense funding). The Papua New Guinea government has recognized these as key programs and has sought increased commitment by Australia to the human and institutional development of the
police and the defense forces. In Solomon Islands and Vanuatu, all security personnel come under the police function, and Australian police and defense personnel are engaged in AIDAB training programs in Solomon Islands and Vanuatu.

Overseas officers involved in these police and defense forces development programs face an exacting task. Improved training of security personnel cannot compensate for operational deficiencies such as arise from poor police mobility (resulting from inadequate funding and maintenance of vehicles) or poor police and military housing (resulting from inadequate funding and maintenance and poor incentives for occupier-maintenance). Moreover, the effectiveness of improved training may be thwarted where poor assignment of personnel leads to poor utilization of skills developed under development assistance programs.

*Development of security forces “culture.”* But the most exacting task faced by overseas training officers in Melanesian security forces is the development of police and defense force “culture.” The development of police and military culture as these are now understood internationally is particularly exacting in a Melanesian environment. In Melanesian cultures, all relationships are “personal” and involve partiality. Police and military command critically relies upon impartiality—where the same disciplinary standards apply to non-kin as to persons from the same language group or to persons having ties of kinship (*wantoks*). Likewise, the exercise of police and military duties calls for an even-handedness of treatment (equality before the law, etc.) that conflicts with the norms of Melanesian cultures. The requirements of impartiality, so necessary for the effectiveness of professional security forces, fly in the face of the cultural partiality involved in the complex obligations of Melanesian *wantok systems*.

Developing the culture of security forces involves inculcating a sense of the distinction between professional and personal domains and cultivation of a sense of fellowship in a shared mission. This professional *esprit de corps* may be undermined in multiple ways suggested by the following examples:

- inadequate remuneration may encourage non-security-force activities (like running a business on the side-line);
- experience of partiality becomes self-generating (a worthy officer passed over in favor of a wantok later replicates partiality in treatment);
• weak corps commitment to police or military codes of conduct undermines and isolates conscientious officers; and

• families and kin (wantoks) who do not understand or who do not respect distinctions between professional and personal domains may place extreme pressures upon conscientious officers.

The technical aspects of police and defense forces training in human capital infrastructural development are important and difficult. The non-technical or cultural aspects are even more important and difficult. Arguably, progress in non-technical security forces development could make a greater contribution to the improvement of police and defense forces effectiveness in Melanesian nations than progress in technical areas of security forces development.

Confidence in the impartiality of command within police and defense forces is critical to the improved effectiveness of security forces. Confidence in the impartiality of the exercise of police and military functions outside the police and defense forces (that is, within the communities and societies of Melanesian nations) is critical to the improved effectiveness of security forces. The improved effectiveness of the security forces has potential for marked improvement in the security of communities and of national societies—and, of course, for improvement in the stability of specific contract environments and of contractual environments generally in Melanesian nations (and other developing nations).

The non-technical or cultural considerations that inhibit the application in security forces of human skills fostered through development program assistance could be diminished where development of training programs better cultivates group identification with standards of conduct proper to police and military professions. Developing programs that strengthen cultural adaptation requires that overseas trainers appreciate the complexity of pressures (both social and psychological) that inhibit the effective implementation of trainee skills within the corps. This calls for good cross-cultural skills on the part of personnel working under Australian (and other foreign) police and defense assistance programs. Program effectiveness would be promoted by clearer recognition of the cultural adaptations that are involved in the development of effectiveness in police and defense force functions in Papua New Guinea, Solomon Islands, and Vanuatu.
Consultation by Overseas Governments with Parent Companies and NGOs

The problems encountered by mining company managements that are attempting to find cross-cultural forms of contract management in Papua New Guinea (or in Solomon Islands or Vanuatu) are eased where head-office managements include persons with extensive Melanesia field experience. The proximity of Melanesia to Australia means that such head-office experience is more likely in Australia than, say, in the United States. There nevertheless remains a role for Australian and other governments to play in contributing to corporate understanding (and in learning from corporate understanding) of needed adaptations in the manner of “doing business” in Melanesian nations. Consultations with corporate NGOs and not-for-profit NGOs within Australia and other nations concerning commercial operations in (and program development assistance for) Melanesian nations should, of course, occur in the context of ongoing consultations between Melanesian national governments and overseas national governments. An openness in exchange is essential to the achievement of truly cooperative development assistance relations.

The People of Melanesian Nations

The people of Papua New Guinea, Solomon Islands, and Vanuatu have pervasive aspirations for more and a greater range of desired goods and services and with less variation in provision. The tragedy of the recent history of Papua New Guinea (and, with adaptation, with the recent histories of other Melanesian nations) has been that opportunities available from mineral resources development and other unearned incomes have been inadequately directed to the necessary restructuring of economy and society that is required for economic and social growth and development. Resources have instead been too much applied to consumption activities and to purposes that support a deteriorating status quo.

The big contribution of the people of Papua New Guinea (and, should potential for mineral resources development be realized, of the peoples of Solomon Islands and Vanuatu) is the recognition that the accrual of unearned incomes from mining (or indeed from overseas aid) presents opportunities that should not be foregone for achieving national economic and social development. Making and giving effect to this recognition and aspiration involve increased embrace for cross-cultural adaptations that involve economic, political and cultural development for the peoples of these Melanesian nations.
Lessons for Other Pacific and Developing Nations

This study brings an explicit sympathy for market processes in the achievement of economic growth and development. Yet a recurrent theme has been that microeconomic decisions do not necessarily construct desirable macroeconomic or social outcomes. Managers of multinational firms, bringing a dominant international market culture to the Pacific and developing nations, need to inform management practice by knowledge of and constructive adaptations to local cultures. Finding viable cross-cultural forms of organizational behavior contributes to business success in developing nations.

The economic notion of "externalities" has usually been applied in terms of the undesirable effects of the production activities of firms (such as environmental damage arising from mining). The economic tools that provide the principles for management of externalities of these kinds have been widely rehearsed in professional applications of cost-benefit analytical methods. This study focuses attention on a variant interpretation of externalities:

- on the ways that mineral resources developments operate through international and domestic terms-of-trade effects to retard the development of other sectors; and
- on the effects of receipt of unearned incomes by national governments, provincial governments, and customary landowners in inducing and in maintaining behavioral patterns that counteract economic and social growth and development.

This focus then draws attention to tendencies to act dysfunctionally in host societies at national, provincial (or equivalent), and local-area levels and so create negative "externalities" that are counterproductive to economic and social development.

The remedy has not been to deny mineral resources development but to propose institutional forms that allow this development to be marshaled
as an opportunity for promoting broader-based and sustained economic and social growth and development.

The chief general lessons for other Pacific and developing nations are:

- to seek to engage managements of multinational firms in a process of cross-cultural adaptation to find patterns of organizational behavior that make for corporate success of firms engaged in both international market culture and local cultures; and

- to recognize that microeconomic behavior that works against the construction of desirable macroeconomic or social outcomes occurs at least as much with local-area communities and governments (politicians and bureaucracies—national and provincial (or equivalent) and foreign and international) as it does with corporate managements.

Strategic public policies for success (as distinct from “private” success) are critical both for corporations and for governments and for local-area communities. The “villain in the patch” can be either foreigner or homegrown (or both).

All parties display tendencies to the “win-lose” strategies of constant-sum-game behavior (and in extreme cases to “lose-lose” strategies of negative-sum-game behavior). Management for successful outcomes involves all parties choosing the “win-win” strategies of positive-sum-game behavior. This choosing involves transparency and public accountability of firms, of governments (politicians and bureaucracies—national and provincial (or equivalent) and foreign and international) and public accountability of local-area interests.

The scrutiny that this public accountability answers is, “By what means are these activities turned to opportunity for constructing economic and social and cultural growth and development (national, international, and local)?” The means will be practical and will be experimental. It seems to the author that they will be attained only where higher purposes direct these practical means—where the purposes are the advancement of human welfare, of human dignity.
References

Australian International Development Assistance Bureau (AIDAB)

Bank of Papua New Guinea (BPNG)

Fallon, J.

Lum, J. A., Clark, A. L., and Coleman, P. J.

Knetsch, J. L.

McGavin, P. A.

McGavin, P. A.
McGavin, P. A.  

McGavin, P. A.  

McGavin, P. A.  

McGavin, P. A. and Millett, J.  

National Centre for Development Studies (NCDS)  

Papua New Guinea Conservation Areas Act, 1978
Papua New Guinea Environment Containments Act, 1978
Papua New Guinea Investment Promotion Act, 1991
Papua New Guinea Land Act, 1962
Papua New Guinea Land Disputes Settlement Act, 1975
Papua New Guinea Land Groups Act, 1962
Papua New Guinea Land Titles Commission Act, 1974
Papua New Guinea Mineral Resources Stabilization Fund Act, 1974
Papua New Guinea Mining Act, 1992
Papua New Guinea Mining (Amendment) Act, 1990
References

Papua New Guinea, Department of Minerals and Energy (DME)
1989 Mining Development Contract [pro-forma].

Papua New Guinea, Department of Minerals and Energy (DME)
1990 Currency and Financing Clause of the Mining Development Contract.

Parliament of the Commonwealth of Australia

Parsons, D. and Vincent, D.

Quodling, P.

Solomon Islands Mines and Minerals Act, 1990
Solomon Islands Petroleum Act, 1987

Stein, L.

Vanuatu Mines and Minerals Act, 1986
Vanuatu Petroleum Bill, 1990
Acknowledgments

This study would have been impossible without the cooperation of major mining companies and government departments and without the field-work funding acknowledged in the Preface. The following lists alphabetically the persons to whom particular acknowledgment is due.

Dr R. Addison

Mr G. Anderson

Mr G. Andrews

Mr K. Aua

Mr J. Auna

Mr J. Bartram

Mr W. Bates

Mr R. Bohn

Mr V. Botts

Mr B. Brogan

Mr R. Brew

Dr M. Busse

Superintendent T. Clark AFP

Mrs F. Carruthers

Mr H. Colligan

Dr P. Dahanayake

Mr G. Dorrance

Mr M. Dupré

Solomon Islands Ministry of Natural Resources

PNG Chamber of Mines and Petroleum

Ok Tedi Mining Limited

Shell Papua New Guinea Pty Ltd

Bougainville Copper Limited

Mt. Kare Mining Pty Ltd

Papua New Guinea Department of Minerals and Energy

Vanuatu Chamber of Commerce

Placer (PNG) Pty Ltd

National Centre for Development Studies, Australian National University

Kencocot Explorations Ltd

National Museum of Papua New Guinea

Royal Solomon Islands Police Force

Bank of Papua New Guinea

Chevron Niugini Pty Ltd

Papua New Guinea National Research Institute

National Centre for Development Studies, Australian National University

Chevron Niugini Pty Ltd
Acknowledgments

Dr A. Elek
Research School of Pacific Studies, Australian National University

Mr C. Evanson
CRA Minerals PNG Pty Ltd

Captain R. Feckner ARA
Vanuatu Department of Geology, Mines, and Rural Water Supply

Mr D. Fraser
Placer (PNG) Pty Ltd

Mr R. Gillbanks, MBE
Kina Gillbanks Pty Ltd

Mr J. Glynn
Royal Papua New Guinea Constabulary
- Price Waterhouse Urwick

Professor J. Griffin
The University of Papua New Guinea

Mr D. Gupta
The World Bank, Washington DC

Mr H. Hagon
Agricultural and Resources Management Services Pty Ltd

Dr S. Halapua
Pacific Islands Development Program, East-West Center

Mr R. Harden
Australian High Commission to Papua New Guinea

Mr F. Haynes
BP Papua New Guinea Pty Ltd

Mr D. Henton
Chevron Niugini Pty Ltd

Mr R. Horoi
Solomon Islands College of Higher Education

Major P. Hoskins ARA
12CE Works, Department of Southern Highlands Province

Mr R. Hoyle
Commonwealth Development Corporation

Dr W. Iamo
Papua New Guinea National Research Institute

Professor Emeritus F. Jarrett
The University of Adelaide

Mr I. Johnson
CRA Minerals (PNG) Pty Ltd

Mr M. Kelesi OBE CSI
Federation of Solomon Islands Businesses

Mr M. Kennedy
Papua New Guinea Department of Minerals and Energy

Mr L. Kenwood
The World Bank, Washington DC

Mr B. Konie
Ok Tedi Mining Limited

Mr H. Laird
W. R. Carpenter & Co. Estates Ltd
Mr B. Land  | Papua New Guinea Department of Minerals and Energy  
Warrant Officer K. Laurie ARA | 12CE Works, Department of Southern Highlands Province  
Mrs E. Liew | Papua New Guinea Department of Minerals and Energy  
Mr J. Lohberger, OBE | Papua New Guinea Department of Planning and Finance  
Mr J. Lum | Minerals Policy Program and Pacific Islands Development Program, East-West Center  
Mr W. Lussik, OBE | Port Moresby Chamber of Commerce and Industry  
Mr C. McConaghy | Angco Ltd  
Mr C. McRae | Bougainville Copper Limited  
Mr F. McQuoid | Steel Industries Pty Ltd  
Mr L. Madjeric | Ok Tedi Mining Limited  
Dr H. Mannur | The University of Papua New Guinea  
Mr A. Millar | Chevron Niugini Pty Ltd  
Mr J. Millett | Institute of National Affairs, Port Moresby  
Mr R. Moaina | Papua New Guinea Department of Minerals and Energy  
Dr C. Mortimer, OBE | Vanuatu Department of Geology, Mines and Rural Water Supply  
Mr L. Palmer | Arimco (Solomon Islands) N.L.  
Mr J. Paraia | Placer (PNG) Pty Ltd  
Mr J. Pearson | Australian High Commission to Vanuatu  
Mr R. Pell | Chevron Niugini Pty Ltd  
Mr E. Pikik | Bank of Papua New Guinea  
Mr G. Pobé | Chevron Niugini Pty Ltd  
Mr A. Power | Chevron Niugini Pty Ltd  
Mr W. Ramo | Solomon Islands Ministry of Natural Resources  
Mr K. Rigg | Pacarc Niugini N.- L.  

Acknowledgments

Mr F. Sabben
Major P. Smith ARA
H.E. Mr J. Starey
Mr D. Sutherland
Mr S. Tosali
Mr D. Vincent
Captin P. Gilmour-Walsh RAN
Dr R. Williams

Exploration PNG Pty Ltd
Australian High Commission to Papua New Guinea
Australian High Commission to Solomon Islands
CRA Ltd
Papua New Guinea Department of Finance and Planning
Centre for International Economics, Canberra
Australian High Commission to Papua New Guinea
Oil Search PNG Ltd
PACIFIC ISLANDS DEVELOPMENT PROGRAM

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