

ASIAN DEVELOPMENT BANK

TAR: VAN 27287

TECHNICAL ASSISTANCE

TO THE

REPUBLIC OF VANUATU

FOR PREPARING THE PROPOSED

OUTER ISLANDS

INFRASTRUCTURE DEVELOPMENT PROJECT

July 1999

CURRENCY EQUIVALENTS

(as of 9 July 1998)

Currency Unit	—	Vatu (Vt)
\$1.00	=	Vt129.680
Vt100	=	\$.771

- (i) The foreign exchange rate of the Vatu is determined by the Reserve Bank of Vanuatu.
- (ii) For the purposes of calculation in this Report, an exchange rate of \$1.00 to Vt130 has been used.

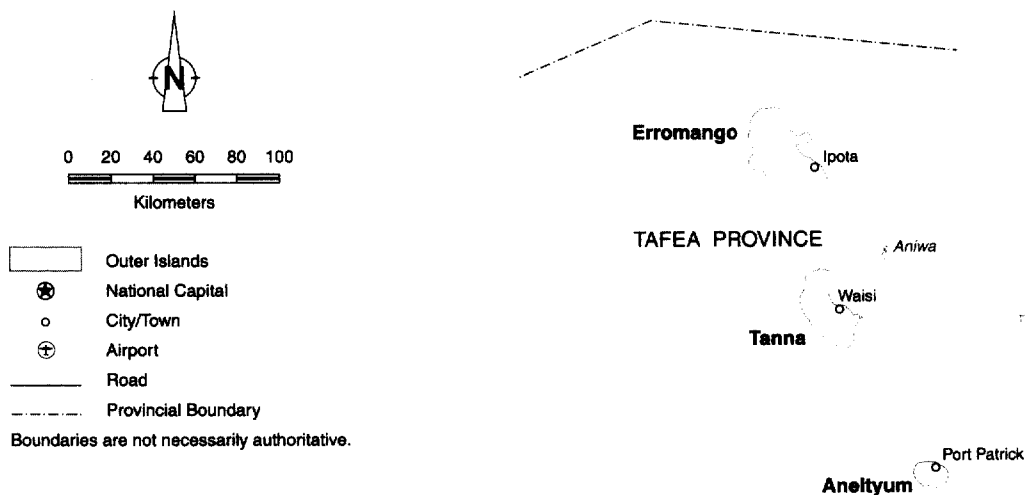
ABBREVIATIONS

DESD	-	Department of Economic and Social Development
EIRR	-	Economic Internal Rate of Return
FIRR	-	Financial Internal Rate of Return
IA	-	Implementing Agency
IEE	-	Initial Environmental Examination
MIPU	-	Ministry of Infrastructure and Public Utilities
O&M	-	Operations and Maintenance
PSC	-	Project Steering Committee
PWD	-	Public Works Department
TA	-	Technical Assistance

NOTES

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

VANUATU OUTER ISLANDS INFRASTRUCTURE DEVELOPMENT PROJECT



I. INTRODUCTION

1. During the Bank's 1996 Country Programming Mission, the Government of the Republic of Vanuatu requested assistance to help prepare the Outer Islands Infrastructure Development Project, aimed at facilitating equitable economic development and trade among Vanuatu's outer islands. During July-August 1998 the Bank technical assistance (TA) Fact-finding Mission¹ held discussions with Government representatives and reached an understanding on the objectives, scope, cost estimates, and implementation arrangements for the Project Preparatory Technical Assistance.²

II. BACKGROUND AND RATIONALE

2. The Republic of Vanuatu is an archipelago of 80 mountainous islands in the southwest Pacific (see Map). The country's total population in 1999 is about 185,000 and the population growth rate is about 2.9 percent. The eight largest islands (Ambae, Ambrym, Efate, Erromango, Espiritu Santo, Malakula, Pentecost and Tanna) constitute almost 90 percent of the country's land area and are inhabited by 80 percent of its population, most of which is located along the seacoast. There are only two urban centers — the capital, Port Vila on Efate with 30,000 people, and Luganville on Espiritu Santo with 10,000; both are growing rapidly. The rest of the population lives in towns and villages, often with populations of only a few hundred persons. The proposed project will help provide alternatives to out-migration from the outer islands.³

3. The social structure of village communities and the desire to preserve ni-Vanuatu traditional values, are both assets and constraints. The fruits of an individual's efforts are likely to be shared by many members of a clan as part of a wide range of obligations, which provides a social safety net. Communities may also plan and implement small development projects such as a footpath, footbridge, or boat landing. Most land is held under custom (village) ownership. This facilitates land management by the community, but often makes land acquisition more time-consuming since the purchaser must often deal with a number of custom owners of the same piece of land.

4. Vanuatu has abundant land and natural resources. Although 45 percent of the total land area (an estimated 5,500 square kilometers) is arable, only about 15 percent is utilized, indicating considerable potential for expansion. The climate, rich soil, location, and relatively pest-free and unpolluted environment are conducive to the development of agriculture, livestock, and forestry. The territorial waters and associated large exclusive economic zone and reefs are as important as a potential resource for fisheries.

5. Agriculture is the mainstay of Vanuatu's economy. Major crops include copra; cocoa; coffee; kava; vegetables such as yam, cassava, and sweet potato; and fruits such as papaya. Cattle raising has also proven successful. About 25 percent of marketed copra and cocoa and 70 percent of cattle are raised on plantations, and the balance by smallholders. Much of smallholder production is on gardens in newly cleared forestland, allocated to users by each

1 Comprising Jeffry R. Stubbs, Regional Representative, and Peter Hunt, Senior Project Implementation Specialist. The mission had been postponed pending implementation of other projects.

2 The TA first appeared in *ADB Business Opportunities* in September 1996.

3 The outer islands comprise all islands except Efate.

village following traditional custom rights and privileges. Forestry is important particularly on the larger islands such as Efate and Espiritu Santo. Tourism is an important growth industry and revenue earner on many islands, where the combination of natural beauty and custom lifestyle provides much of interest to the tourist. Fishery, mining, and manufacturing are all underdeveloped.

6. Trade between the islands is dominated by copra. Other frequently traded items include cocoa, coffee, kava, fruits and vegetables, canned meats and fish, sugar, household goods, clothing, fuel, machinery, motor vehicles, and livestock. In most areas, goods are carried on foot to transfer points and then (i) by small boats to coastal or interisland vessels, or (ii) by truck or bus after which they are transported to a nearby village or town. Air transport is sometimes used for high-value commodities such as kava.

7. Vanuatu's high cost and inefficient coastal and interisland shipping services are a serious constraint on the transport of crops and other agricultural produce from, as well as the supply of food, fuel, and other necessities to, the outer islands. Most of the ships are old, poorly maintained, and in need of replacement. Although the larger, more central islands receive services at intervals of a week or less, the smaller, more remote islands may be served only once every several months. There are two international seaports, at Port Vila and Luganville. Although wharves and jetties have been constructed on most of the larger islands, these are not always functional and small boats are often used to carry goods and people to ships anchored off the coral banks that surround most of the islands. The Government is aware of the need to improve interisland shipping, and is considering opening the sector to international companies, and increasing the number of international ports. The Port Act, the Coastal Trading Act and Shipping Regulations are being revised, and a Maritime Authority has been created to regulate sea traffic.

8. About 22 of Vanuatu's 80 islands have roads, many of them constructed during the Second World War. While some urban roads are paved with asphalt, most are constructed of coral. Although the main road network is in most cases adequate to handle existing traffic, feeder roads in many areas are needed to service developing agricultural, fishing, and tourism areas, and roads and bridges must be upgraded to accommodate heavier vehicles, eliminate hazardous crossings or alignments, and provide better drainage. Road maintenance is at present very poor, and needs to be put on a sustainable basis.

9. Air services are reasonably good. There are three international airports, (on Efate, Espiritu Santo, and Tanna), and 26 domestic airstrips, of which 11 are regularly serviced and 15 have variable service. Some of the domestic airstrips need improvement to facilitate all-weather service.

10. Power services are available only in Port Vila and Luganville; although these are reliable, they are costly. Water supplies are available in Port Vila, Luganville, and a few other towns and villages. They are of good quality only in Port Vila, where treatment is provided regularly, and in a few of the smaller towns, where supplies are from the ground and do not require treatment.

11. Agricultural research and extension centers have been developed on the larger islands, and these are complemented by producer and consumer cooperative associations. A ni-Vanuatu business development center is being developed. Although funding is available to

agricultural producers through their cooperative associations and credit unions, little is available from financial institutions. There is a substantial need to improve agricultural, small business, and cooperative associations; enhance extension programs; and improve financing arrangements.

12. Vanuatu's local government institutions comprise six provinces, two municipalities (Port Vila and Luganville), and about 800 villages. Until recently, the roles of each had been unclear. Most development projects were developed by politicians or central Government agencies, and formal consultations with local government institutions were infrequent. Under recently prepared budget guidelines, however, local governments are being given the opportunity to prepare projects and the responsibility to prepare budgets. A Decentralization Act is also being prepared.

13. The Bank has supported a multiproject loan,¹ covering roads, wharves, schools, and other infrastructure, as well as loans for Santo port² and urban infrastructure.³ Wharves constructed under the multiproject loan were rated as unsuccessful since they were often poorly located with respect to either the community or the sea. Such facilities, if recommended under the TA, will be scrutinized carefully. All the loan projects have required fairly substantial adjustment of designs during implementation, evidence of a need to improve preparation of detailed designs before project approval. Bank TAs have supported preparation of recommendations for strengthening the Public Works Department (PWD), a national transport development plan, and an interisland shipping study.⁴ A telecommunications master plan was prepared with United Nation Development Programme (UNDP) assistance in 1987; an airport development program was prepared with Agence Francaise de Developpement assistance in 1996; a utilities policy framework was prepared with World Bank assistance in 1998; and a land use planning project is under way with Australian Agency for International Development (AusAID) assistance. Together, these loans and TAs form a strong and comprehensive basis for the TA. The Bank's TA for the interisland shipping study recommended the actions described in para. 7 and the TA for strengthening the PWD led to its recent reorganization and the introduction of contracting-out procedures for road maintenance.

14. Within the above-described framework, the TA will help assess in more depth the infrastructure constraints of the outer islands, particularly those related to the expansion of markets, development of tourism, agriculture, forestry and fishing, improved operations and maintenance (O&M), and improved policies and institutional arrangements. Care will be taken to ensure that the recommended improvements are based upon well-balanced assessments of development needs and community aspirations, and are sustainable

1 Loan No. 766-VAN, Multiproject for \$3 million, approved in December 1985.

2 Loans Nos. 843-VAN, Santo Port, and 1080-VAN, Santo Port (Supplementary), for \$9.15 million, approved in September 1987 and March 1991.

3 Loan No. 1448-VAN, for \$10 million, approved in June 1996.

4 TA No. 901-VAN, *Institutional Strengthening of Public Works Department*, for \$325,000, approved on 29 September 1987; TA No. 965-VAN, *Preparation of a National Transport Development Plan*, for \$350,000, approved on 28 March 1998; and TA No. 1525-VAN, *Inter-island Shipping Study*, for \$525,000, approved on 21 June 1991.

III. THE TECHNICAL ASSISTANCE

A. Objectives

15. The TA will assist the Government to (i) assess the infrastructure constraints to more rapid economic development of the outer islands; (ii) assess and make recommendations for adjusting the policies governing coastal and interisland shipping, to make it more competitive and efficient; (iii) design and cost a project to undertake the priority infrastructure investments including improved O&M to support economic growth in the outer islands; and (iv) help prepare the project-related components of a national infrastructure master plan that specifies the Government's policies, strategies, and priority investments for the medium term.

B. Scope

16. The scope of the TA will include (i) inventorying, mapping, and analyzing the physical features, economic production, trade, traffic, land-use, infrastructure, and land development characteristics of various provinces and islands; (ii) identifying the economic development prospects of each province, major island, and development area; (iii) consulting with village communities, provinces, private developers, and nongovernment organizations to identify infrastructure development needs and potential projects; (iv) assessing coastal and interisland shipping sector policies, regulations, markets, and providers, and developing recommendations for making the sector more competitive and more efficient; (v) undertaking feasibility studies for major infrastructure components, including engineering, environmental, social, financial, economic, and sustainability assessments, and preparation of the related preliminary designs and costings; (vi) preparing detailed designs and bid documents for selected components; (vii) assessing institutional arrangements to maintain, operate, and recover the costs of this infrastructure and make recommendations for low-cost, sustainable options; (viii) helping draft the project-related components of a national infrastructure master plan that will identify key policies, strategies, and priority investments; (ix) recommending a port development plan for Port Vila; and (x) preparing an investment project for consideration by the Government and the Bank including background, objectives, scope, cost, financing plan, implementation arrangements, and justification.

17. The TA will be carried out in three phases. In the first phase (about three months) visits will be made to all the provinces; consultations will be held with community groups and provincial governments; priority proposals will be identified; and levels of service provision, institutional, and financial arrangements will be surveyed. Based upon the findings, alternative project configurations will be prepared; these may range from a strong focus on new investments to a focus on O&M and related institutional strengthening. Policy and institutional issues will be detailed for further consideration, and lists of subprojects will be assembled. In the second phase (three months) feasibility studies of major and high-priority components will be prepared, surveys will be carried out, and the project scope and costs will be defined in more detail. Economic and financial internal rates of return will be estimated as necessary to determine if the various subprojects are justified. Environmental and social impact assessments will be prepared as a part of the feasibility studies and for the Project as a whole. In the third phase (two months) detailed designs and implementation arrangements will be prepared and the project costs will be refined. Loan fact-finding is planned for the end of the second phase, while the consultant team is still in the field. Low-cost, sustainable solutions

implemented within sound and appropriate policy and institutional framework will be sought. Terms of reference for consultants are in Appendix 1.

18 The project ensuing from the TA may comprise (i) policy reforms; (ii) high priority infrastructure investments; and (iii) institutional strengthening, capacity building and finance. The infrastructure investments are anticipated to include rehabilitation/upgrading of main roads, feeder roads, airstrips, and wharves. Consideration will also be given to integrated infrastructure and service provision in developing areas. The project will cost about \$8 million to \$12 million and may be financed with the assistance of a \$5 million to \$8 million Bank loan in the year 2000.

C. Cost Estimates and Financing Plan

19 The TA is estimated to cost a total of \$883,000 equivalent, comprising \$658,000 in foreign exchange and \$225,000 equivalent in local currency. The Government has requested the Bank to finance \$750,000 equivalent, covering the entire foreign exchange cost, and \$92,000 equivalent of the local currency cost. The TA will be financed by the Bank on a grant basis from the Bank-financed TA Program. The balance of the local currency costs, equivalent to \$133,000, will be financed by the Government, through the provision of office space, counterpart and support staff, transport for Government staff, facilities, materials, and support services. The Government has been advised that approval of the TA does not commit the Bank to finance any ensuing project. The cost estimates for the TA are given in Appendix 2.

D. Implementation Arrangements

20 The Executing Agency for the TA will be the Department of Economic and Social Development (DESD), of the Ministry of Finance. The Implementing Agency (IA) for the first phase of the TA will be DESD. The IA for the second and third phases of the TA will be the PWD of the Ministry of Infrastructure and Public Utilities (MIPU) or another line agency selected at the end of phase 1, depending upon the conclusions of the TA at that stage. DESD will provide coordination between the agencies concerned with the Project, including the Ministry of Finance; Ministry of Agriculture; MIPU; Ministry of Internal Affairs; Ministry of Natural Resources, Land and Environment; other concerned departments; and the TA consultants. To facilitate TA implementation and coordination, DESD will establish a project steering committee (PSC) comprising representatives of these agencies to guide implementation. The IA will serve as Secretary to the PSC, and manage the work of the consultants including coordination with the private sectors, nongovernmental organizations, and communities, on a daily basis. The IA will assign a full-time project coordinator to supervise the TA and staff, and provide furnished office space, and other office and communications facilities to assist the consultants. Each participating provincial government will establish a working group to facilitate implementation at the local level. The TA is expected to be completed in June 2000.

21. The TA will be implemented over a period of about 10 months, by a team of international and domestic consultants. For this purpose, a consulting firm will be selected by the Bank in accordance with its *Guidelines on the Use of Consultants*. An estimated 20.5 person-months of international consulting services will be required, together with some 6.0 person-months of domestic consulting services. International consultants' inputs will provide expertise in rural and agricultural development, road and airstrip engineering, ports and wharf engineering, shipping policy and economics, project economics, financial analysis and institutional development, and environmental and social analysis. Domestic consultants will provide expertise in rural community

development and participation, mapping, and drafting. Three reports will be produced during the conduct of the TA: a Phase 1 report covering the demand assessments and optional project configuration; a phase 2 report covering the shipping and feasibility studies, and a phase 3 report describing the recommended project in standard Bank format, and the infrastructure master plan. In addition, the consultants will produce monthly progress reports describing results achieved, inputs provided, and issues encountered. Each major report will be provided to the PSC, for review before finalization. Each monthly report will be provided for information to the PSC. Tripartite reviews will be held at the end of each phase of the work.

IV. THE PRESIDENT'S DECISION

22. The President, acting under the authority delegated to him by the Board, has approved the provision of technical assistance to the Government of the Republic of Vanuatu in an amount not exceeding the equivalent of \$750,000 for the purpose of preparing the Outer Islands Infrastructure Development Project, and hereby reports such action to the Board. This technical assistance will be financed initially as a grant, but will be subject to the reimbursement arrangements set forth in the Board Papers on *Technical Assistance Operations* (Doc. R51-77, dated 20 May 1977) and *Streamlining of Technical Assistance Operations* (Doc R44-88, dated 21 March 1988) including the provision that, in the event of the technical assistance resulting in a loan from the Bank, the Bank may charge against such loan, and recover from it, the portion of the initial grant that exceeds \$250,000 equivalent.

TERMS OF REFERENCE FOR CONSULTANTS

A. Phase 1: Demand Assessments

1. Outer Islands Demand Assessment

- (i) Examine the Government's development strategies and policies for the major productive and supportive sectors, especially agriculture, transport, tourism and fisheries;
- (ii) inventory, map, and analyze the physical features, economic production, trade, land-use, and land development patterns of each major island group in Vanuatu; assess the competitive advantage of the relevant sectors in each; and identify the impediments and constraints to further development;
- (iii) identify proposed agricultural, forestry, fishing, and mining projects and small-scale value-added industries and tourism enterprises, in the outer islands; and identify where infrastructure facilities are constraining development of such;
- (iv) consult with communities, provinces, public works, and other sources to identify outer islands infrastructure projects;
- (v) survey interisland marketing, trade, and transport patterns, and identify transport improvement needs comprising rehabilitation of existing facilities and construction of new facilities;
- (vi) recommend financial and economic criteria, including methods of data collection and analysis, for the selection, analysis, and prioritization of projects;
- (vii) utilizing the data available on the benefits, costs, and technical feasibility of subprojects, roughly screen uneconomic projects and prioritize the remaining projects; and
- (viii) identify alternative project configurations ranging from an emphasis on operations and maintenance (O&M) and capacity building to more intensive physical works, and for each alternative prepare a preliminary project framework;

2. Interisland Shipping Assessment

- (i) Review current constraints in the interisland shipping industry, including existing legislative arrangements (including the recently approved Foreign Investment Act), and regulatory practices including those for the granting of shipping licenses; and identify any other institutional, technical (including infrastructure), or commercial restraining or anticompetitive features in the industry;
- (ii) assess the present demand for, level, and adequacy of interisland shipping practices, ownership of lines and vessels, standards and conditions of vessels, safety regulations, and present status of compliance with regulations and standards, both domestic and international;

- (iii) assess the present costs of Vanuatu's services, on a macro basis as compared to similar services in other parts of the Pacific, and on a micro basis taking into account the type of equipment used and schedules followed;
- (iv) review the existing government policy, institutional, and regulatory framework for the sector including subsidies provided to the sector, and comment on their appropriateness (especially for remote islands), efficiency, and transparency;
- (v) prepare an action plan of policy and institutional recommendations aimed at improving the quality and reducing the cost of interisland shipping in Vanuatu;
- (vi) broadly estimate the economic impact of the recommendations and compare the "with" and "without" action situations; and
- (vii) prepare an interim report summarizing the findings of phase 1 and submit it to the national and provincial governments, and the Bank for consideration at a tripartite meeting.

B. Phase 2 - Feasibility Studies and Institutional Arrangements

1. Feasibility Studies—Roads and Airports

- (i) Review the information available on road and airport usage and on existing infrastructure conditions, and update the priority lists of projects assembled in phase I;
- (ii) assess demand, vehicular etc. usage as appropriate, for each priority subproject;
- (iii) visit project sites and, where necessary, prepare outline plans, rough designs, and cost estimates;
- (iv) for selected high-priority subprojects, prepare feasibility studies based on preliminary designs, including least-cost analyses;
- (v) carry out land, soils, water, and other surveys;
- (vi) undertake economic, social, and environmental impact assessments and adjust designs accordingly; and
- (vii) supplement and update the priority list according to the results of the feasibility studies.

2. Feasibility Studies--Ports

- (i) Review inter-island port facilities at the major nodes; examine patterns of usage, identifying constraints and needs for future usage; consult with interisland stakeholders including shipping companies, shippers, consignees, nongovernmental organizations and responsible Government ministries; and identify improvements for further consideration;

- (ii) prepare outline plans, rough designs, and cost estimates for remedial or new works to provide the required services; and describe the various options available at each port;
- (iii) recommend a future interisland port facility development master plan (infrastructure and equipment) for Port Vila, including indicative costs; and identify land ownership constraints to these proposed developments and recommend remedial actions;
- (iv) for selected, high priority subprojects, prepare feasibility studies based on preliminary designs, including least-cost analysis;
- (v) review institutional arrangements covering operation and user charges associated with present port facilities;
- (vi) recommend appropriate institutional arrangements, capacity building, and institutional strengthening requirements; and
- (vii) carry out land, soils, water and other surveys; undertake economic, financial, and environmental assessments, and adjust designs accordingly.

3. Institutional Arrangements

- (i) Assess the national and provincial governments' capabilities and progress in the preparation of provincial strategic plans that incorporate land-use, economic activity, social, and infrastructure requirements;
- (ii) review the national and provincial governments' present criteria and methodology for sector and project planning, and the subsequent selection and prioritization of investment projects;
- (iii) review and comment on the recently revised procedures for project identification, analysis, and prioritization. and selection for financing (from the budget from external sources) including relationships between the provincial governments and the various national government ministries;
- (iv) analyze, in association with the Ministry of Provincial Affairs and individual provincial governments, the present effectiveness of community and other stakeholder involvement in outer island/provincial physical infrastructure selection and prioritization; and recommend the means by which community involvement may be increased and strengthened;
- (v) analyze the present operations and maintenance (O&M) practices and capabilities of the department of public works and of each provincial government; prepare recommendations for improving O&M including improvements in organization, staffing, equipment, operations, and budgets; and
- (vi) recommend institutional capacity building and strengthening to facilitate national and provincial governments' capabilities in sector planning, identification of investment projects, their feasibility assessment (including preliminary design and costing), and prioritization.

4. Environmental and Social Assessments

- (i) Carry out environmental screening of the subprojects identified;
- (ii) working in close collaboration with Government's Department of the Environment to prepare initial environmental examinations (IEEs) and summary IEEs in accordance with Bank requirements as expressed in the *Bank's Guidelines on the Environmental Assessment of Projects*, taking into account the recommendations of the *Bank's Environmental Guidelines for Selected Infrastructure Projects*;
- (iii) identify any necessary mitigation and environmental monitoring measures, and ensure that these are incorporated into the project design and implementation arrangements; should the IEE indicate that adverse environmental impacts are likely and significant, prepare a detailed environmental impact assessment of the subcomponents concerned;
- (iv) carry out social assessments of the proposed project options in accordance with the *Bank's Handbook on Incorporating Social Dimensions into Bank Operations*, identifying any need for resettlement and impacts of land acquisition measures that may be required, and assessing the long-term implications of the project, including the impact of improvements in service levels, and the impacts of any necessary adjustment to tariffs and charges.

5. Economic and Financial Analysis

- (i) Identify financial and other resource restraints in the national and provincial governments' abilities to adequately maintain their assets; outline recommendations to overcome these restraints taking into account the funding, financial responsibilities, and monitoring arrangements being introduced;
- (ii) identify existing cost recovery mechanisms and evaluate them in terms of yield, willingness to pay, and affordability, and recommend necessary changes under new cost recovery mechanisms, if necessary;
- (iii) carry out least-cost analyses, based on economic prices, of subprojects;
- (iv) carry out economic and financial benefit-cost analyses, including the calculation of economic and financial internal rates of return (EIRRs and FIRRs) with uncertainty analyses of major and representative components in accordance with the *Bank's Guidelines for the Economic Analysis of Infrastructure Projects*, and the *Bank's Framework for the Economic and Financial Appraisal of Urban Development Projects*;
- (v) identify the distribution of project effects including poverty alleviation impact, identify the quantifiable and nonquantifiable benefits of the project, and prepare overall project EIRRs and FIRRs; and,
- (vi) project the effect of the Project on the economies of the Outer Islands and of Vanuatu, using a "with project/without project" methodology.

C. Phase 3 - Preparation of Infrastructure Master Plan, Detailed Designs, and Project Implementation Arrangements

1. Infrastructure Master Plan

- (i) Examine and update the transport infrastructure asset register in each province, and recommend whether each asset should be maintained by the national or provincial government;
- (ii) prepare an action plan of policy and institutional recommendations aimed at improving the delivery of transportation services in Vanuatu;
- (iii) as necessary, identify high priority infrastructure improvements on Efate; and
- (iv) assist the Government to prepare the project-related components of a national infrastructure master plan comprising sector policy and institutional frameworks; economic, social, and environmental criteria for funding projects; priority lists of projects for funding; arrangements for O&M; and recommended investment program and financing arrangements.

2. Project Designs and Implementation Arrangements

- (i) Prepare, based on the above, an investment project that is suitable for Bank financing and is aimed at eliminating constraints in infrastructure to private investment and agricultural production;
- (ii) prepare a logical framework that will (a) identify the goals, purpose, outputs, inputs, and assumptions and risks associated with the project; (b) identify performance indicators that are monitorable; and (c) a monitoring system to achieve this in a realistic manner;
- (iii) for selected components, prepare detailed designs including layout drawings and narrative descriptions, taking into account civil, mechanical, electrical, and other technical requirements;
- (iv) prepare project cost estimates, identify direct and indirect foreign exchange costs, and local currency costs;
- (v) define equipment, material, and civil works packages, with estimated costs, for procurement; identify modes of procurement in accordance with the Bank's *Guidelines for Procurement*; and prepare bid documents;
- (vi) recommend appropriate arrangements for project management;
- (vii) prepare an outline terms of reference for consulting services for detailed design, assistance in procurement, and project implementation management including monitoring of environmental and social impacts during project implementation; and

- (viii) prepare a draft final report incorporating all aspects of the above; conduct the review of the report and salient aspects of the consultants' findings with the Government and the Bank, and prepare a final report on the basis of the review.

D. Reports

- (i) Submit an inception report, one month after commencement of TA; the phase 1 report, (20 copies) three months after commencement; the phase 2 report, (20 copies) 6.5 months after commencement; the draft final report, (25 copies) 9 months after commencement; and the final report, (30 copies) two weeks following the tripartite meeting to discuss the draft final report.

**COST ESTIMATES AND FINANCING PLAN
(US\$)**

Item	Foreign Exchang	Local Currency	Total Costs
A. Bank Financing			
1. Consultants			
a. Remuneration and Per Diem			
i. International Consultants	471,500	-	471,500
ii. Domestic Consultants	-	30,000	30,000
b. Travel			
i. International	70,000	-	70,000
ii. Domestic Air (Interisland)	-	10,000	10,000
iii. Domestic Surface Transport	-	10,000	10,000
c. Reports, Communications, and Office Operations	5,000	5,000	10,000
2. Equipment and Software ^{a/}	10,000	-	10,000
3. Field Surveys, Mapping, and Tests	10,000	20,000	30,000
4. Workshops	-	5,000	5,000
5. Contract Negotiations Representative	6,000	-	6,000
Base Cost	572,500	80,000	652,500
6. Contingencies (approx. 15%)	85,500	12,000	97,500
Subtotal A	658,000	92,000	750,000
B. Government Financing			
1. Furnished Office, Equipment and Appliances	-	30,000	30,000
2. Remuneration and Per Diem of Counterparts	-	39,000	39,000
3. Support staff	-	15,000	15,000
4. Domestic Air and Surface Transport for Counterparts	-	12,000	12,000
5. Utilities, Communications, others	-	15,000	15,000
6. Reports	-	5,000	5,000
7. Contingencies	-	17,000	17,000
Subtotal B	-	133,000	133,000
Total A + B	658,000	225,000	883,000

^{a/} Engineering field survey equipment, computer, plotter, printer and related software.