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REPORT OF THE ECONOMIC AND SOCIAL COUNCIL

Assistance to Seychelles

Report of the Secretary-General

1. In its resolution 32/101 of 13 December 1977 on assistance to Seychelles; the General Assembly, inter alia, requested the Secretary-General to mobilize financial, technical and economic assistance from the international community in order to establish the necessary social and economic infrastructure essential for the well-being of the people and to report to the Assembly at its thirty-third session on the implementation of the resolution. Accordingly, the Secretary-General appointed a mission to visit Seychelles to consult with the Government and obtain an assessment of the assistance required.
2. The report of the mission, which is submitted herewith, identifies urgent and accelerated development projects necessary to enhance the social and economic development of Seychelles and to deal with its current economic difficulties. The Secretary-General will bring the recommended programme of assistance to the attention of all Member States and appropriate international institutions for the provision of financial support.

* A/33/50/Rev.1.

ANNEX

Report of the mission to Seychelles
(26 February to 5 March 1978)

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Map of Seychelles

I. INTRODUCTION

1. On 13 December 1977, the General Assembly adopted resolution 32/101 entitled "Assistance to Seychelles", after consideration of that country's serious economic and social situation. In the operative paragraphs of the resolution, an appeal was made to Member States and the international institutions concerned to provide technical and financial assistance to enable Seychelles to establish the necessary social and economic infrastructure. The Secretary-General was requested to mobilize assistance from the international community, to keep the matter under review and to report to the General Assembly at its thirty-third session on the implementation of the resolution.

A. Appointment of mission and terms of reference

2. As a first step towards mobilizing international assistance, the Secretary-General dispatched a mission to consult with the Government on its most urgent needs.

3. The members of the mission were the following:

Mr. Gordon K. Goundrey, Joint Co-ordinator, Special Economic Assistance Programmes, Office of the Assistant Secretary-General for Special Political Questions, Chief of Mission;

Mr. James Riby-Williams, Chief, Human Resources Development Division, Economic Commission for Africa;

Mr. Edouard Dommen, Special Programmes for Least-Developed, Land-locked and Developing Island Countries, United Nations Conference on Trade and Development;

Mr. Jean Pourtauborde, Interregional Adviser, Water Resources Branch, Centre for Natural Resources, Energy and Transport, Department of Economic and Social Affairs;

Mr. Guy Lemarchands, Chief, Section for Africa and the Americas, Technical Co-operation Branch, Centre for Housing, Building and Planning, Department of Economic and Social Affairs.

Miss Laure Dubus served as Secretary of the mission.

B. Programme of the mission

4. The mission arrived in Seychelles on 26 February 1978 and remained for one week, during which time development projects were discussed with the Government and visits made to the sites of the proposed projects on the islands of Mahé, Praslin and La Digue.

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5. The mission was received on two occasions by the President of the Republic of Seychelles, His Excellency France Albert René. At the first meeting, the President provided the mission with a complete briefing on the development problems of the Republic. The President outlined the Government's plans and policies which envisaged, inter alia, the extension of full administration to all the islands of the archipelago, the encouragement of settlements and development on the outer islands, the prevention of excessive growth and concentration of population in the capital and on the main island of Mahé, and the reduction of the heavy dependence of Seychelles on the tourist industry and importation of basic food-stuff. At the second meeting, the mission discussed with the President its general findings and explored with him some of the major projects for which the Government desired international support.

6. Throughout the mission's stay, regular meetings were held with the ministers and officials principally concerned with economic and social development. A number of working groups were set up to consider in greater detail projects in such fields as housing, water, transport and the social sectors.

C. Acknowledgements

7. The mission wishes to express its appreciation for the hospitality provided by the Government and the excellent arrangements that were made to facilitate the mission's work, including all necessary documentation and meetings with appropriate government departments and officials.

8. The mission met with resident members of the diplomatic corps and is grateful to them for the information they provided relating to assistance programmes in Seychelles.

9. Special mention must be made of the help and assistance provided to the mission by the Resident Representative of the United Nations Development Programme (UNDP), Mr. Jean Pierre Schellenberg, who not only helped in organizing the programme of the mission but accompanied the mission throughout its stay in Seychelles.

II. GENERAL DESCRIPTION

A. Background to the present situation

10. The Republic of Seychelles became independent on 29 June 1976. The Republic is an archipelago of more than 100 islands spread out over a total territory of 1 million square kilometres and has a population of 62,000. The land area is only 260 square kilometres.

11. About one third of the islands, called the "inner islands", contain one half of the total land area of the Republic. This fairly compact granitic group has no island more than 55 kilometres from the main island of Mahé. About two thirds of the islands, called the outer islands, are coralline, often rising only a few feet above sea level. Some of these islands are nearly 775 kilometres from Victoria, the capital.

12. Prior to independence, the government budget was heavily dependent on grants and aid from the United Kingdom. There were small agricultural developments and widespread subsistence agriculture on each of the inhabited islands, and small quantities of fruit, vegetables and fish were produced for the local market. Staple items in the diet, such as rice, flour and sugar, were imported. The major exports were copra and cinnamon, products of both plantation agriculture and small-scale and subsistence production.

13. The opening of the international airport in 1971 brought about a significant change in the economy of Seychelles and tourism became the major industry. In the years following the opening of the airport, considerable investment was devoted to improving the basic infrastructure, primarily on the main island of Mahé and also on the nearby islands of Praslin and La Digue.

14. The rapid growth of the tourist industry created serious structural imbalances for the Republic. The boom in construction and the operation of tourist hotels significantly changed the structure of employment and affected the production of traditional exports. However, development was concentrated on the main cluster of islands and had little impact on the outer islands. The boom in tourism also brought about rapid growth in the capital. One of the Government's major concerns is the increasing dependence of the economy on a single industry and its resultant vulnerability.

B. Current situation

1. Population

15. According to the census of 1977, the population of Seychelles was 62,000. About 98 per cent of the people live on four islands: Mahé, Praslin, La Digue and Silhouette (see table 1). Nearly three quarters of the total population, 45,000, are on the main island of Mahé; of these, 23,000 people live in the capital, Victoria. The population of rural Mahé and the other islands remained constant or

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declined between 1971 and 1977. The rate of natural increase is nearly 25 per thousand and the population is projected to reach 79,000 by 1987. Around 40 per cent of the population is under 15 years of age.

16. Although the total population increase occurred in the capital during the period from 1971 to 1977, some evidence suggests that expansion is now occurring in other parts of Mahé.

Table 1

Population by island group

Inner islands

Mahé and satellites	54,600
Praslin and satellites	4,360
La Digue and satellites	1,910
Silhouette	390

Outer islands 690

Total 61,950

Source: Census, 1977.

2. Economy

17. Selected statistics on the economy of Seychelles are given in table 2. Real GDP (Gross Domestic Product) at factor cost has shown large fluctuations with the following year-to-year changes: 1973, up 6 per cent; 1974, down 5 per cent; 1975, no change; 1976, up 10 per cent. The importance for government revenue of development grants, largely from the United Kingdom, is also clear from the table. Indeed, such grants accounted for between one third and one half of the total government revenue during the period from 1972 to 1976. The economy of Seychelles is extremely open, and imports are approximately equal to gross domestic production at factor cost. Commodity imports have been increasing by nearly 30 per cent annually since 1972. Nevertheless, the balance-of-payments situation has remained satisfactory as a result of the boom in the tourist industry. Indeed, reserves of foreign exchange have increased in three of the last five years.

18. The heavy reliance on imports and the dominance of tourism are shown in table 3. It is important to emphasize that re-exports are also heavily dependent on tourism. About 80 per cent of the re-exports consist of fuel for ships or aircraft and most of the balance is made up of ship or aircraft stores. The growth of re-exports from Seychelles is thus very closely related to the growth in air traffic.

19. In table 3, estimates of private capital are provided because a large proportion of this item consists of expenditures on hotel construction.

Table 2

Seychelles: selected economic statistics

(Millions of rupees)

	<u>1972</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977 a/</u>
<u>GDP (Gross Domestic Product)</u>						
GDP at current prices	138	168	194	235	300	N/A
GDP at 1976 factor cost	235	249	237	238	262	N/A
<u>Foreign sector</u>						
Exports (fob)	10	13	19	13	18	24
Net imports (cif)	108	129	140	169	251	282
Visible balance	-98	-116	-121	-156	-233	-258
<u>Reserves</u>						
External reserves	45	33	31	58	105	N/A
<u>Government finance</u>						
Government local revenue	42	55	64	79	112	148
Development grants (United Kingdom)	38	29	33	33	8	7
<u>Total revenue</u>	80	84	97	112	120	155
Recurrent expenditure	43	59	66	87	120	165
Capital expenditure	38	29	33	34	45	40
<u>Total expenditure</u>	81	88	99	121	165	205
<u>Public debt</u>						
Net public debt at year end	10	9	12	16	14	N/A

Source: Statistical Abstract, 1977, Republic of Seychelles.

Note: The national currency is the rupee. All conversions have been done at the rate Rs 7.30 = \$US 1.00.

a/ Estimated on basis of data for part of the year.

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Table 3

Seychelles: selected foreign sector statistics

(Millions of rupees, current prices)

	<u>1972</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977 a/</u>
Imports	112	135	161	191	291	N/A
Gross tourism receipts	18.0	27.0	43.0	85.0	140.0	175.0
Re-exports	3.7	5.9	20.4	22.1	39.7	40.0
Domestic exports	9.5	13.0	18.7	12.9	17.9	24.0
Private capital, errors and omissions	48.9	43.0	32.3	55.9	72.2	N/A

a/ Estimated.

3. Exports

20. While tourism is the main source of foreign exchange, there are a number of domestic exports, the major one being copra. Although the value of copra exports has increased from Rs 2.3 million in 1972 to Rs 14.5 million in 1977, output has fallen over this period. In 1972, Seychelles exported 3,490 tons; in 1976 the figure was 2,748 tons. There was a small increase in output to 2,918 tons in 1977 when the price of copra increased by 55 per cent to reach Rs 4,970 per ton.

21. The decline in the output of copra reflects, in part, a loss of interest in this activity with the growth of the tourist industry, a shift which may have long-term consequences. The Government has introduced a coconut replanting scheme but the response to the scheme has not so far been encouraging. Copra is also significant because it is the only product exported by Seychelles eligible to benefit from the Stabex scheme under the Lomé Convention.

22. Seychelles also exports cinnamon bark. The level of exports has fallen, especially since 1975, in spite of significant increases in price.

23. Seychelles has recently begun exporting frozen fish. This is a promising product and, although exports only commenced in 1974, they reached a value of Rs 4.3 million by 1976. Seychelles has also exported guano for a number of years but both the quantity and value of exports have fluctuated widely from year to year. In 1976 guano exports were worth 1.3 million rupees.

24. With the exception of frozen fish, the volume of merchandise exports appears to be stagnant, if not declining. In addition, the prices of individual commodity

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exports have fluctuated widely. In fact, tourist receipts have so far been steadier than receipts from traditional exports, with the result that the growth of tourism has stabilized foreign exchange earnings in the recent past. However, overwhelming dependence on the tourist industry raises new dangers. Seychelles now relies on that industry for about 90 per cent of its export earnings, which means that the Republic is facing the same problems as any extreme mono-crop economy. The vulnerability of Seychelles, moreover, is compounded by its extreme openness and dependence on imports.

25. Although gross tourist receipts have grown steadily and impressively since 1971, this is a relatively short period on which to project future earnings for an industry which is characterized by large fluctuations. In the case of Seychelles, there is also heavy reliance on a single market area. In 1976 about 60 per cent of the tourists came from Europe.

4. Imports

26. The dependence of Seychelles on imports is immediate and all pervading. With few exceptions, all food, manufactures, fuel and most construction materials come from abroad, which means that world inflation is transmitted almost immediately to the consumer in Seychelles. Moreover, supplies are at the mercy of shipping connexions with the rest of the world, requiring the country either to carry unusually high stocks at increased cost or to risk shortages if shipping is delayed or interrupted.

27. It is unlikely that this dependence on imports can be significantly reduced in the near future. With only 62,000 people, Seychelles can maintain very few viable manufacturing establishments. There is, at the present time, no prospect of domestic supplies of fuel or power. It is on agriculture that Seychelles will have to depend for the development of import substitutes. Agriculture has therefore been given a high priority by the Government. Without in any way minimizing the importance of greater agricultural production and improved access to land, it remains unlikely that the full range of food requirements could be produced locally. Self-sufficiency in food would necessitate revolutionary changes in diet. A mission from the Food and Agriculture Organization of the United Nations is expected to visit Seychelles shortly to explore projects for increased food production.

5. Geographical disadvantages

28. A country with a small population, made up of a large number of widely dispersed islands and located nearly 1,500 kilometres from its nearest neighbour, faces special development problems. Either smallness or remoteness can create difficulties; the combination imposes particular burdens.

29. First, such an economy is required to over-equip itself by comparison to equipment levels of more conveniently located or larger communities. The smallest unit of a great number of necessary facilities is larger than a small community can fully utilize. This is not only true of physical plants but applies to an even greater extent to high level manpower. Physical facilities tend to be used for a number of purposes and high level manpower tends to have a number of functions. For

example, a single structure must serve as a school, clinic, community centre, and rehabilitation and crafts complex. Another example is the air/sea rescue launch "Riga" which serves the airport, operates as a pilot boat, is used by the police and serves as a launch for dignitaries. In all of these cases, the use of manpower or facilities is less than efficient and facilities may not be fully utilized, thereby adding to costs to a degree that is not immediately apparent.

30. Secondly, and paradoxically for the same reasons, such a country is under-equipped in that it lacks any kind of fall-back or safety position. Because the individual unit is excessive relative to the demand, standby units or substitutes cannot be justified. The breakdown of a physical plant leads to the total disruption of service. For example, while the mission was in Seychelles, bus services on Praslin had to be suspended because of a fire on the schooner which transported fuel from Mahé. No standby or substitute means of delivering fuel was readily available. Similar and in many ways more serious problems emerge with respect to manpower. The illness or absence of a person can paralyze a service as no substitute is available. In this situation, too, there are more than the usual difficulties in sparing people for specialized training, although the need for such training is widely recognized.

31. For the first of these reasons, which may be called over-equipping, the costs of projects and, therefore, of international assistance must be higher than they would be to a larger or more accessible community at a similar level of economic or administrative efficiency. For the second of these reasons, the lack of alternatives and substitutes, the costs of utilizing such assistance must be higher. For both these reasons, simple monetary comparisons not only over-state the value of international assistance and the real levels of income but invalidate most comparisons of cost effectiveness.

32. A small island economy must take in its stride fluctuations in the level of activities of a magnitude which a larger country would probably regard as unmanageable. To quote some examples, agricultural output in Seychelles dropped by 22 per cent in one year (1974 to 1975) and construction by 33 per cent (1973 to 1974). Large fluctuations even occur in areas where one would normally expect a fair measure of stability. For example, new enrolments in primary schools rose 10 per cent in one year (1972 to 1973) and fell again by the same proportion in the following two years (1973 to 1975).

33. When a country must face these kinds of fluctuations, medium-term planning and programming become extremely difficult. Flexibility becomes an essential tool in economic management, while itself imposing real costs in terms of specific efficiency in the design and implementation of projects and programmes. The need for flexibility extends to international assistance programmes.

34. Another very costly burden arises from the necessity of providing transport, communications, social services and general government administration to a large number of sparsely populated islands spread over a vast area of the ocean.

6. Outer islands

35. The more than 60 outer islands, some of which are nearly 1,000 kilometres from the main consumer and service centre and whose total population is only 690 people, are very difficult to develop and integrate into the national economy. Almost four out of five inhabitants are male and almost nine out of 10 economically active. This situation results from the fact that many of the small outer islands have mainly a transitory population of plantation workers or construction workers associated with tourism.

36. The Government plans to encourage further settlement and exploitation of these islands primarily through the development of agriculture, the fisheries and tourism. But the difficulty and cost of providing minimum acceptable levels of public and social services to such dispersed, sparsely populated communities cannot be over-emphasized.

7. Inner islands

37. In the case of Seychelles, one group of granitic islands is clustered in such a way that some of these obstacles and burdens can be overcome. Thus Praslin, La Digue and Silhouette, being no more than 40 kilometres from the capital, are well integrated into the national economy and have promising development prospects. The major obstacle to development is the small population, resulting in the high cost of basic services and the ever-present danger that if economic and social conditions lag behind those provided in the capital people will leave for the urban centre.

8. Transport and communications

38. Another serious obstacle to development is the cost of transportation and communications.

39. The improvement of transport and communications with the outer islands is important for a number of reasons. Agricultural and forestry development will depend in particular on access to Victoria, the capital, which is not only the major consumer centre but also the point from which exports are shipped to foreign markets. The tourist trade will continue to be centred on the capital and will spread out from the international airport. Without good transport and communications links, any development will be difficult.

40. The fisheries, whose potential has been relatively neglected to date, will be much easier to exploit once some of the outer islands are developed. Seychelles has enacted legislation covering a 200-mile economic zone. The outer islands will be particularly important as bases for administration and control of the fisheries in order to ensure conservation, protection and adherence to national policies.

41. The development of the outer islands will necessitate the establishment of settled communities and the provision of essential public services. These services in turn depend on the willingness of teachers, nurses, doctors, public servants, artisans and tradesmen to serve and stay in the communities. Unless such services can be provided, it will be difficult to persuade families to settle and without families development will be difficult and costly, if not impossible.

42. The determination of the Government to pursue active settlement and rural development programmes also reflects its concern with population concentration and congestion in the capital and on the main island of Mahé. The rapid growth of Victoria has created a serious land shortage and a need for major investments in housing, water, roads, sewerage and electricity. On Mahé, the mountainous terrain and the underlying impenetrable granite make such projects particularly costly.

43. Any country which depends on tourism for almost all its foreign exchange must provide acceptable levels of housing and public services. Inadequate housing, inefficient garbage collection, untreated water supplies and poor sewerage systems stand in the way of attracting tourists, as do unreliable transport communications and power. In large measure, therefore, these services must be given heavy emphasis and the expenditures should be viewed in large part as investment in infrastructure for the tourist industry.

III. GOVERNMENT OBJECTIVES

44. The broad objective of the Government is a stable, growing but more diversified economy in which the benefits of economic growth are more widely distributed. The mission was provided with documentation relating to projects proposed in order to meet the most urgent requirements of Seychelles within this broad objective.

45. While some projects are directed towards growth of the outer islands, most relate to the "inner islands" - the relatively compact archipelago consisting of Mahé, Praslin, La Digue, Silhouette and their satellites - where most of the people live. A number are directed towards "regionalizing development" - developing areas on Mahé outside the capital. Projects in Victoria are primarily directed towards solving problems resulting from rapid growth during the past 10 years. Unless urgent steps are taken to solve the water, sewerage and housing problems in the capital and to direct development and growth towards other areas, Seychelles will in the near future face even more serious problems requiring more drastic and costly solutions.

IV. DEVELOPMENT PROJECTS

46. The Government of Seychelles submitted a number of project documents to the mission. These projects were examined in depth in consultation with the Government. On the basis of these consultations, and in line with the priorities of the Government, the programme shown in table 4 was drawn up. The projects are classified into two groups those which the mission considers urgent and those whose implementation should be accelerated. The table also shows the area towards whose development the projects are primarily directed.

A. Outer islands

47. The Government is emphasizing the development of the outer islands and their integration into the national economy. Guidelines for their development were worked out by a group of ministers and officials who paid a fact-finding visit to most of the islands in October 1976. The long-term goal is to create by 1992 between 1,500 and 2,000 jobs, primarily in agriculture, forestry, fishing and tourism. This figure would imply a population of over 3,000 compared to the less than 700 inhabitants today.

48. As a first step towards the development of the outer islands, a flat-bottomed landing craft is under construction and is expected to be in service by the end of 1978. The craft is designed to minimize the building of jetties and wharfs. The need for an additional flat-bottomed craft will be reassessed as development plans proceed.

Table 4

Summary of recommended programme

	<u>Urgent</u>	<u>Accelerated</u>	<u>Total</u>
Projects for the outer islands	\$494,000	\$100,000	\$594,000
Projects for the inner islands (except Mahé)	\$2,200,000	\$1,800,000	\$4,000,000
Projects for Mahé (except the capital)	\$1,800,000	\$400,000	\$2,200,000
Projects for the capital, Victoria . .	\$1,550,000	\$3,750,000	\$5,300,000
National projects	<u>\$652,000</u>	<u>\$900,000</u>	<u>\$1,552,000</u>
<u>Total</u>	<u>\$6,696,000</u>	<u>\$6,950,000</u>	<u>\$13,646,000</u>

49. As a first phase of the longer-term development plan for the outer islands, the Government is concentrating on two of the larger islands - Farquhar and Desroches. An airstrip is under construction on Farquhar and both islands now have radio telephone links with Mahé.

50. Both Farquhar and Desroches are coralline or sandcay islands. On such islands, ground water, where present, is found in lenticular bodies of limited capacity overlaying the sea water which permeates the porous foundations of the islands. Great care must be taken in exploiting such water sources in view of the danger of salt water intrusion. Thus, water supply may prove a serious constraint on the development of the islands of Farquhar and Desroches, where precipitation is relatively low. A detailed study should be undertaken of fresh water sources and demands likely to arise from development. This study should form an early part of the over-all water resources inventory and master plan discussed below (see para. 105).

51. An essential step in planning the development of these outer islands is the determination of the minimum sustainable population - the "critical mass" - in the light of the physical environment and isolation and with a full awareness of the socio-psychological factors which might determine the willingness of families to settle. These factors must be assessed against the prospects of developing sufficient activities on the islands to sustain the "critical mass" in the form of a settled community. Moreover, a detailed study of Farquhar and Desroches would be of great assistance in planning the development of the other outer islands.

52. There are a number of specific short-term projects which can be undertaken as a first stage towards the longer-term development of Farquhar and Desroches.

1. Desroches airstrip

53. The construction of airstrips on Desroches and Farquhar was recommended by the ministers and officials who visited the outer islands in October 1976 and in the feasibility study of outer island development prepared by a visiting mission in March 1977. The Government is presently constructing an air strip on Farquhar and a similar facility should be provided on Desroches. All future development activities on Desroches depend on improved access. No up-to-date estimate of cost is available but an air strip is likely to cost something in excess of \$411,000 using local labour to the maximum extent.

2. Telecommunication and navigation equipment

54. No provision has been made for telecommunication and navigation equipment for the airstrip on Farquhar, nor is it included in the estimate for the airstrip at Desroches. The kind of equipment necessary if development, including tourism, is to proceed will cost \$28,000.

3. Housing and public buildings

55. Each island has, in the past, depended on plantation agriculture but during the past five years the plantations have been badly neglected. Limited funds totalling Rs 1.7 million have been provided by the Government for the renovation and improvement of the agricultural estates. This sum, however, will not provide housing and public buildings for the expanded development which is planned for Farquhar and Desroches. In addition to a community centre and a school, each island will require housing and sanitation services. The timing of construction and the number of buildings involved will depend on the rate at which other projects go forward. Initially \$100,000 will be needed.

4. Forestry production on Desroches

56. There are now sufficient forests on Desroches to meet nearly one half of the country's needs for construction timber for five years. Many of the trees are casuarina which have invaded and partially taken over some of the coconut plantations. Assistance is required to purchase saws and handling equipment costing about \$55,000. Not only would this project result in the saving of nearly Rs 6 million of imports and provide 15 to 20 jobs on the island but it would also constitute an essential component of the plantation improvement scheme on Desroches. While this project is underway, the Government plans to develop a forest management plan to support a permanent industry on Desroches.

B. Inner islands other than Mahé

57. The major inner islands of Praslin, La Digue and Silhouette have reasonably good communications with the capital. Sea communications with Praslin and La Digue are provided by a government-owned ferry, "The Lady Esme", as well as by privately-owned schooners and vessels. Primarily used for passengers, "The Lady Esme" visits

Praslin and La Digue three times weekly. Daily round trips for most freight services are usually provided by privately-owned schooners. Telephone service is available on Praslin and La Digue, and on the former there is a small airstrip which is heavily used by both tourists and local people.

58. The small population of the inner islands, the main obstacle to their development, is related to difficulties of transport and communication. A number of projects would significantly improve transport between the islands. The level of public services and utilities must also be improved if these islands are to grow and develop.

1. Inner island ferry replacement

59. The ferry, "The Lady Esme", is old and is nearing the end of its economic life, and its maintenance costs are high. The ferry can carry 120 passengers; its average annual seat occupancy is 68 per cent. It carried 16,000 passengers in 1977. There are, however, wide fluctuations in the number of people requiring passage and the ferry often has to refuse passengers, including tourists. The privately-owned schooners carry only a few passengers and are mainly used for freight. An efficient passenger service by sea is essential if Praslin and La Digue are to be developed.

60. Even with the relatively heavy passenger demand, the ferry service is unlikely to be profitable. At the present time, losses are running at around Rs 7.5 million per year but much of this results from the high maintenance costs of "The Lady Esme". A new ferry should be provided as soon as possible. The estimated cost is \$1.5 million.

2. La Digue jetty

61. Lacking sheltered anchorage, La Digue, which has promising tourist and agricultural potential, is difficult and dangerous to approach during several months of the year. At no time can the ferry approach La Digue, and passengers have to transfer to whale-boats. A jetty-breakwater is needed to serve the schooners, the ferry and other vessels, particularly tourist boats, in order to ensure safe, efficient and regular cargo and passenger services.

62. The Government hopes to build the jetty-breakwater using labour intensive methods over a period of four to five years, thus providing much needed employment on the island. At the present time, the unemployed and under-employed are obliged to leave the island for the capital. The estimated cost of the jetty-breakwater is \$300,000.

3. Jetty at Baie St-Anne, Praslin

63. The present jetty on Baie St-Anne can be used only by very small boats. Passengers and freight from the ferry and the schooners must resort to whale-boats, a practice which is a serious obstacle to marketing such local products as fish, vegetables and shell fish in the capital. If the service were improved, many more tourists would take day trips from the hotels on Mahé to Baie St-Anne to take

advantage of the beaches and other tourist attractions. The cost of completing the jetty is estimated at \$165,000.

4. Upgrading Praslin airstrip

64. The present airstrip on Praslin is unsurfaced and heavily used. In 1976 there were over 30,000 passengers, of which 30 per cent were local. In addition, there is a growing tendency for the tourist hotels on Praslin to obtain their supplies by air.

65. With the growth in traffic and the increase in the weight of the aircraft using the landing airstrip, it is becoming impractical to maintain an earth surface. It is also necessary to equip Praslin with equipment for night flying. Many of the tourists need to connect with overseas flights which usually arrive and depart during the night. The total cost of surfacing the strip and providing equipment for night flying is \$80,000.

5. Praslin electricity

66. Praslin, with 4,360 people, is the second most populous island of Seychelles. It has promising prospects for further development not only of tourism but also of agriculture and small-scale and artisanal industry. There are at present 154 hotel beds on the island and this number will increase to 400 by 1979 when present construction is completed. By 1985, according to the most recent projections, there could be 1,000 hotel beds.

67. Electricity supply at the present time is provided by a number of small private generators whose owners have expressed a desire to go over to a centralized public supply system. It will thus be possible to offer reliable electrical service not only to existing users but to the public in general. The resulting improvement in the quality of life and the new developments should help stem the population drift from Praslin to Mahé. The estimated cost of the project is \$1.5 million.

6. Access roads on Praslin

68. Although Praslin has seen a rapid development of its tourist industry, there remain pockets of acute poverty which are impossible to correct because of the difficulty of access. Two such pockets are at Anse La Blague and Montplaisir. In each case vegetables could be grown which would find a ready market at the tourist hotels. Two access roads suitable for four-wheel drive vehicles would bring the people of these two areas in reach of the economic opportunities on Praslin. Each access road would be one kilometre long but construction will be difficult because of the terrain. The estimated cost of these two access roads is \$440,000.

7. Rural water supplies on Praslin

69. Two small rural water supply schemes are required on Praslin. One would be located on Anse Consolation, the other at Montplaisir village. At the present time,

the water supply at Anse Consolation is unsatisfactory and inadequate for the 30 families who depend on it. The scheme involves reconditioning and enlarging the existing water system with a new storage tank and new water pipes. The estimated cost of the scheme is \$10,000. The second scheme, at Montplaisir, would supply 25 families who are presently without water. It involves a small barrage on the Anse Harlan river, a settling tank and polythene piping for water distribution. The estimated cost of this scheme is \$5,000.

C. Development of Mahé

1. Background to developmental needs

(a) Housing

70. There is a serious housing shortage in Seychelles, with all the attendant health and sanitation problems. Because of the rapid expansion of the capital and the drift of population from the other islands to Mahé, many single family dwellings are now occupied by two or more families, leading to a high degree of overcrowding.

71. According to the 1977 census, over 1,100 households, or 10 per cent of the occupied houses, had more than three persons per habitable room. The census reports, supplemented by information obtained from applicants for the various home ownership schemes, indicate that almost 900 houses are shared by several families.

72. The mission has calculated that to keep up with the projected growth on Mahé and to lower the occupancy rate down to one family per house, some 2,550 houses would have to be built during the next five years. In addition, about 1,300 houses would have to be upgraded during that period to reduce overcrowding.

73. Assuming no backlog or shortage, about 850 houses would be required each year, 400 to cater to population growth and 450 to replace the existing housing stock. A possible construction programme to alleviate the housing shortage and overcrowding over a five-year period would be the following:

	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>Total</u>	<u>1983</u> <u>and after</u>
New construction	280	380	480	620	800	2,550	400
Upgrading and renewal . .	140	185	240	320	415	1,330	450

74. The dangers of excessive demands on the construction industry followed by sharp reductions in the level of activity must be emphasized. Even using conservative projections, hotel building on Mahé should continue to be substantial until the mid-1980s. This suggests that it may be necessary to spread the house construction programme over a longer period and to emphasize the upgrading programme in the immediate future.

(b) Construction industry

75. The construction industry in Seychelles consists of three main elements: private formal sector, the public sector - Public Works Department (PWD), and an informal unorganized sector. It is estimated that these sectors combined employ nearly one fifth of the working population.

76. Employment in the private formal sector has shown great fluctuations in recent years. In November 1973, at the height of the hotel building boom, employment reached 3,853. A year later, it had fallen to one half that level (1,970) and was only 1,364 in November 1975. The estimate for November 1977 is 2,000, only slightly more than one half the number when the building boom was at its height. At the end of 1977, it was estimated that private formal sector employment was responsible for about one half the total employment in construction.

77. There is, however, strong evidence that total employment in the construction industry fluctuates much less than employment in the private formal sector. A significant number of small building contractors and artisans take up employment in the formal private sector in boom times, but return to operating their own businesses during slack times. Indeed, there appears to be a significant indigenous construction capacity which would gain from more effective organization and more government support.

(c) Shortage of land

78. Land in Seychelles is scarce, particularly around Victoria where most of the housing developments have taken place. In addition, the mountainous configuration considerably reduces the availability of land for construction. Many areas require blasting before they can be used. More than 70 per cent of the land has a slope greater than one-in-four and can only be used for housing with expensive methods of construction. With the combination of heavy rainfall and steep slopes, alignments and gradients of access roads necessitate expensive surfacing and stormwater techniques.

79. A recent survey identified only 200 hectares of land on Mahé suitable for low cost housing. The land shortage, together with the existing land tenure system, results in very high costs to the Government for the purchase of land for housing schemes. Even if the Government purchases a fair-sized estate, only a small part is likely to be suitable for construction. A recent scheme showed that, after unsuitable areas had been utilized for other purposes, the cost for a 400 square metre plot was around \$900.

80. The high cost of land and its absolute shortage require that special attention be given to the size of plots and the standards of access roads.

(d) Sewage problems

81. It is not possible in Seychelles to follow the general practice, used elsewhere on sites and services schemes for low-cost housing where terrain and plot sizes are suitable, of reliance on the use of pit latrines. This is not practical in Seychelles where in the upland areas the granite is close to the surface and where in the low-lying coastal areas the water table is less than a metre below the surface.

82. There is no sewage system in Seychelles, except in a small part of the capital. As an interim measure, the use of septic tanks had been encouraged but this has proved inefficient and very expensive. Serious health hazards have been created in low-lying areas because of the high water table, and in upland areas the granite has interfered with effective drainage from the tanks.

2. Housing policies and projects

83. Improved housing for the citizens of Seychelles has been given high priority by the Government and emphasis has been placed on self-reliance through self-help schemes and greater community participation. About one half of the population has monthly incomes of between Rs 500 and Rs 1,300, which places severe limits on the amount the inhabitants can afford to spend on housing. The Government is, therefore, anxious to explore alternative and less expensive methods of providing housing. The Government's housing policy includes a number of elements: subsidies for low-income families (approximately 10 per cent of the households have monthly incomes under Rs 500), home improvement loans and grants, a housing loan fund and a new home ownership scheme for low-cost housing.

84. The new home ownership scheme for low-cost housing involves the purchase of land and the provision of infrastructure by the Government. The plots and the mortgages will then be allocated to selected applicants. The actual construction will be based on self-help with loans to cover the purchase of materials.

85. Three specific housing projects have been identified: self-help housing schemes at Anse Boileau and at Le Rocher on Mahé, and a programme to support small contractors and artisans.

(a) Self-help housing scheme at Anse Boileau

86. The project involves the purchase of 50 hectares of land by the Government of which 12.5 hectares are considered suitable for low-cost housing. The balance of the land will be used for agriculture and forestry. The proposed development scheme is in two phases. During the first phase, estimated to cost some \$1.3 million, approximately 200 plots will be developed and materials supplied for self-help housing to 200 applicants. The second phase, to be carried out after the first phase is completed, would develop another 300 plots.

(b) Self-help housing scheme at Le Rocher

87. This project involves purchase by the Government of 16 hectares of land. It is estimated that some 30 plots could be developed on that part of the land suitable for low-cost housing. The balance of the land will be used for forestry and agriculture. The scheme is similar to that proposed at Anse Boileau: the land will be divided and serviced and materials supplied for self-help construction to be done by selected applicants. The estimated cost of the project is nearly \$400,000.

(c) Programme to support small contractors and artisans

88. Reference was made earlier to the composition of the construction industry and to the need for support and assistance for artisans in the informal sector (paras. 75-77). The project consists of organizing artisans and skilled workers into a small building co-operative. This would enable them to participate more effectively in the private formal construction industry and to provide specialized services to people building houses under the various self-help schemes. The co-operative will provide the framework within which artisans and skilled workers can act as a general contractor and, on behalf of the artisans and skilled workers, it will prepare tender documents, organize procurement, keep accounts and establish regular work programmes. The small initial funding of the co-operative would facilitate short-term financing of loans to artisans and skilled workers for purchase of equipment, tools and supplies. The organization of such a co-operative will require a skilled manager, consultants on in-service training, and a small amount of loan capital to get the co-operative started. The estimated cost of the scheme is \$125,000.

3. Water and sewage projects

89. Reference was made above to the special problems regarding water and sewage in Seychelles (see paras. 81 and 82). These have assumed major importance on Mahé with the rapid population growth and the large number of tourists. Improved sewage systems in Greater Victoria and in the Beau Vallon and Bel Ombre areas have become a major concern of the Government. It is recognized that septic tanks in granitic and reclaimed soils constitute a serious potential health hazard. The only sewage system at present covers a reclaimed area in Victoria. Less than 20 establishments are connected to the treatment plant located at the new port and capable of coping with a population of 8,000. The capacity of the treatment plant will remain grossly under-utilized until the sewage network is extended to the main part of Victoria. A major seven stage study covering the whole of Greater Victoria has been prepared with the help of consultants.

90. Another urgent need relates to the Beau Vallon/Bel Ombre area. The development of tourist hotels in this area makes it essential to provide an over-all sewage system to replace inadequate arrangements made by each individual hotel. A project has been prepared which provides initially for a sewage treatment plant and the beginning of the main sewer system.

91. In addition to projects relating to sewage, the Government is concerned with improving the water supply on the main island. Work has been started on the so-called "Northeast/Northwest Link". The highest priority is being given to phase 1 of the project and to replacing and extending the water mains of the Cascade-Airport-Anse aux Pins system. The second stage involves a link from Anse Etoile to Carana Bay. The long-term programme for developing the island-wide treated water system envisages using the Cascade works, which now feeds the capital, to supply the southern part of the island. This will necessitate construction of a water main along the east coast. The first part of this treated water main - to Pointe La Rue - is urgently required as the existing pipeline is in poor condition.

92. Water reticulation must also be extended throughout the capital. Some parts of Victoria are at present using inadequate untreated supplies and some areas have no piped water supply at all. Part of the extended reticulation is being carried out, but further phases covering upper Victoria, St. Louis and Mount Buxton should be undertaken as soon as possible.

93. In addition to urban water supply schemes, the Government is anxious to provide a number of villages on Mahé with adequate supplies of treated water.

94. A number of projects have been identified to meet the water and sewage needs on Mahé.

(a) Extension of the sewage system in Victoria

95. A seven-stage plan to provide the whole of Greater Victoria with a proper sewage system has been drawn up. The Government wishes to combine stage 1 of the consultants' plan with that part of stage 2 covering the hospital. The project involves the construction of a pump station, two kilometres of main sewers and a connexion with the hospital. The estimated cost is \$2.7 million.

(b) Sewage scheme for the Beau Vallon/Bel Ombre area

96. The scheme to provide the first stage of an over-all sewage system for the Beau Vallon area was drawn up in 1972. The first stage would include a sewage treatment plant and initial work on the main sewer system. The total cost of the project has been estimated at roughly Rs 17 million. The project involves a consultancy to update the 1972 project in order to take account of the new demands arising from tourist hotels in the area and price increases since the preparation of the original project. The estimated cost of the consultancy is \$100,000.

(c) Stage 2 of the Northeast/Northwest link of the main water system

97. Stage 1 of the Northeast/Northwest link, discussed in paragraph 91, should be completed in late 1978. The second stage, from Anse Etoile to Carana Bay, should now be constructed. The estimated cost is \$200,000.

(d) Replacement of existing pipeline to Pointe La Rue

98. Both the asbestos main pipe along the Cascade causeway and the cast-iron water main paralleling the highway have deteriorated and need to be replaced. The water

system is presently operating with reduced pressure, restricting development and water reticulation. The Cascade-Airport-Pointe La Rue section needs to be laid first and the line later extended to Anse aux Pins and Anse Royale. The estimated cost of the project is \$1 million.

(e) Extension of water reticulation in Victoria

99. Phase 1 of the extension of water reticulation, the so-called "Rochon Conversions", is presently under way. The second and third parts of the reticulation scheme covering upper Victoria, St. Louis and Mount Buxton would cost approximately \$850,000.

(f) Rural water supply projects on Mahé

100. A number of small villages, such as Quatre Bornes, Anse Boileau, Les Cannelles and Dame Le Roi, need to be provided with adequate treated water. The cost of these small village water supply projects totals approximately \$275,000.

(g) Garbage collection

101. In addition to these specific water and sewage projects, the Government of Seychelles is anxious to establish adequate conservancy and refuse collection services but is handicapped by a severe lack of facilities and equipment. The rapidly growing population and the large number of tourists make an efficient conservancy system urgent. The project involves the purchase of adequate equipment: two skip lorries, 30 skips, 60 steel bins, a D4 bulldozer and related equipment, and the construction of tip walls for garbage disposal. The estimated cost of the project is \$550,000.

4. Other projects relating to water, building and physical planning

(a) Physical planning project

102. The Government has published a five-year development plan for the period 1977-1981 and land use plans and policies have been prepared for certain parts of Mahé, particularly the capital. However, there is an urgent need to expand the scope of physical planning activities and to integrate them with social and economic development policies. The Government has an office for physical planning with some land development control powers, but it requires intermediate-term assistance by qualified consultants.

103. In a new regional physical plan more emphasis needs to be given to accelerated development of Praslin, La Digue, Silhouette, Farquhar and Desroches and to the regionalization of economic growth on Mahé. Updated land use plans must be prepared, preliminary proposals made for water supply and distribution, and sewage and transport systems reviewed. Existing land development control acts and regulations must be examined as well and draft proposals prepared for their revision. In addition to three physical planners who will be required for at least one year, and two civil engineers for half a year, provision should be made for a period of one month for a consultant on planning laws. The total cost of the project is estimated at about \$275,000.

(b) Survey of building materials

104. At the present time, Seychelles imports a very large part of required building materials. With a view to reducing the import component of housing and construction, a short-term mission should be carried out by an expert on building materials and technology. Such an expert would make a survey of the available domestic building materials and present proposals for the exploitation of such materials. The estimated cost of such assistance is \$12,000.

(c) Water resources inventory and plan

105. Seychelles urgently needs to develop a water resources master plan. The water supply depends almost entirely on rainfall, as ground water sources are likely to be limited both in granitic and sandcay islands. Hydrogeological conditions may therefore prove limiting factors in any plan to develop the islands. Because water supply is likely to be crucial, a detailed inventory of potential water resources should be carried out before development is encouraged.

106. Although a water master plan was prepared in 1968 for the island of Mahé, new developments - and particularly the growth of the tourist industry - require the updating of the master plan. This is particularly true in the light of the Government's hopes to increase significantly agricultural production, much of which is dependent on limited irrigation. The estimated cost of drawing up the water resources inventory and master plan is some \$180,000.

D. Projects in the social sectors

107. Government policy for the social sector has undergone major changes in emphasis in the past two years. In the field of education, steps are now being taken to provide equality of educational opportunities throughout the country. Two important factors of this policy are assurances that the intake of each primary school comes from a specified catchment area, and the provision of text books, teaching materials and equipment to all schools on a non-discriminatory basis. A policy for nine years of universal education from the age of six years has been adopted. Senior secondary education is to be expanded and additional provision made for technical and vocational training courses. In the field of health, emphasis is being placed on upgrading preventative medicine, particularly through the development of mother and child health care services at the community level.

108. The major immediate requirements in the social sectors are programmes to reduce the drift of unemployed school leavers into the capital and facilities for improved care for the pre-school children of working mothers. According to published statistics, over 50 per cent of the babies are born to unmarried mothers, many of whom are employed.

109. Three projects have been proposed to meet these major concerns: craft training centres, the expansion of pre-school education for four-to-six year olds, and improvements at 10 existing day-care centres.

(a) Craft training centres

110. Each year nearly 1,000 young people leave school at the age of 15 or 16 years with little prospect of gainful employment, drift into the capital as a result and eke out a precarious existence in the informal sector. The employment potential of producing crafts for sale to tourists is relatively undeveloped. In a survey undertaken in 1975, it was estimated that most of the 37,000 tourists who visited Seychelles left with most of their souvenir budget unspent. The Government proposes to establish a system of national craft training centres throughout the country as a method of providing gainful employment for school leavers and other unemployed. In addition to production of craft works for sale to tourists and other residents, various cottage industries could well be established as a result of this training scheme: ceramics, tailoring, embroidery, batik, tie dye, silk screen printing and traditional Seychelloise craft work. Eventual construction of 10 such centres is envisaged on the basis of community self-help. The project involves the construction of three centres as pilot projects at a cost of \$150,000 (\$50,000 each).

(b) Expansion of pre-school education

111. The Government intends to develop a series of multipurpose district social centres. Each centre will facilitate pre-school education, including day nurseries, supplementary feeding schemes, organized community efforts, informal education and mother and child health schemes. Originally, the Government had intended to establish health clinics on a district basis but, as pointed out above (see para. 29), the small populations involved make it necessary to provide multipurpose facilities. These new multipurpose social centres are essential if settled communities are to be established throughout the smaller inner islands and the outer islands. Without such facilities, the Government believes it will be difficult to create and maintain settled communities and to prevent the drift of young people to the capital. The estimated total cost of providing a multipurpose social centre in each of the districts is \$900,000.

(c) Refurbishing 10 day care centres

112. At the present time there are 10 day care centres catering to the children of working mothers and providing some facilities for children coming from underprivileged homes. If opportunities for employment of mothers, particularly in tourist hotels, and for training in the craft training centres are to be taken up, improved day care centres must be provided. The estimated cost of refurbishing the 10 existing centres is \$35,000.

E. Higher and specialized education

113. It is not possible for Seychelles, with its small population, to provide all the required higher and specialized education. There is thus a need for scholarships and fellowships for graduate and post-graduate training abroad. Because of the difficulty of releasing high-level manpower for specialized training (see para. 30), special emphasis should be placed on in-service training as a component of all technical assistance projects. The need for scholarships for training abroad and for a training component in technical assistance activities will continue for some years to come.

IV. SUMMARY OF PROJECTS AND COSTS

114. The projects selected by the mission (see table 5) are important components of the First National Development Plan, 1977-1981, but reflect the changed priorities of the Government since the development plan was drawn up. The selected projects have been classified into those which the mission considers urgent and those which should be given accelerated implementation. The total cost of the urgent projects is approximately \$6,696,000, the accelerated development projects approximately \$6,950,000.

115. Further information on each of these projects, including in some cases complete project documents, is available from the Government of Seychelles or from the United Nations.

Table 5

Summary of projects and costs

	<u>Cost</u>
A. URGENT PROJECTS	
1. <u>Outer islands</u>	
(a) Desroches airstrip (para. 53)	\$ 411,000
(b) Telecommunication and navigation equipment (para. 54)	28,000
(c) Forestry production on Desroches (para. 56)	55,000
2. <u>Inner islands (except Mahé)</u>	
(a) Replacement of "The Lady Esme" (paras. 59 and 60)	1,500,000
(b) Jetty at Baie St-Anne, Praslin (para. 63)	165,000
(c) Upgrading Praslin airstrip (paras. 64 and 65)	80,000
(d) Access roads on Praslin (para. 68)	440,000
(e) Rural water supplies on Praslin (para. 69)	15,000
3. <u>Mahé</u>	
(a) Self-help housing scheme at Anse Boileau (para. 86)	1,300,000
(b) Programme to support small contractors and artisans (para. 88)	125,000
(c) Consultancy on sewage scheme for the Beau Vallon/ Bel Ombre area (para. 96)	100,000
(d) Replacement of existing pipeline to Pointe La Rue (para. 98)	1,000,000

/...

	<u>Cost</u>
(e) Rural water supply projects on Mahé (para. 100)	\$ 275,000
(f) Garbage collection (para. 101)	550,000
4. <u>National</u>	
(a) Physical planning project (paras. 102 and 103)	275,000
(b) Survey of building materials (para. 104)	12,000
(c) Water resources inventory and plan (paras. 105 and 106)	180,000
(d) Craft training centres (para. 110)	150,000
(e) Refurbishing day care centres (para. 112)	35,000
<u>Sub-total</u>	<u>\$ 6,696,000</u>
B. ACCELERATED PROJECTS	
1. <u>Outer islands</u>	
(a) Housing and public buildings (para. 55)	\$ 100,000
2. <u>Inner islands (except Mahé)</u>	
(a) La Digue jetty (paras. 61 and 62)	300,000
(b) Praslin electricity (paras. 66 and 67)	1,500,000
3. <u>Mahé</u>	
(a) Self-help housing scheme at Le Rocher (para. 87)	400,000
(b) Extension of sewage system in Victoria (para. 95)	2,700,000
(c) Phase 2 of Northeast/Northwest main water system (para. 97)	200,000
(d) Extension of water reticulation - Victoria (para. 99)	850,000
4. <u>National</u>	
(a) Expansion of pre-school education (para. 111)	900,000
<u>Sub-total</u>	<u>\$ 6,950,000</u>
<u>Total</u>	<u>\$13,646,000</u>

