

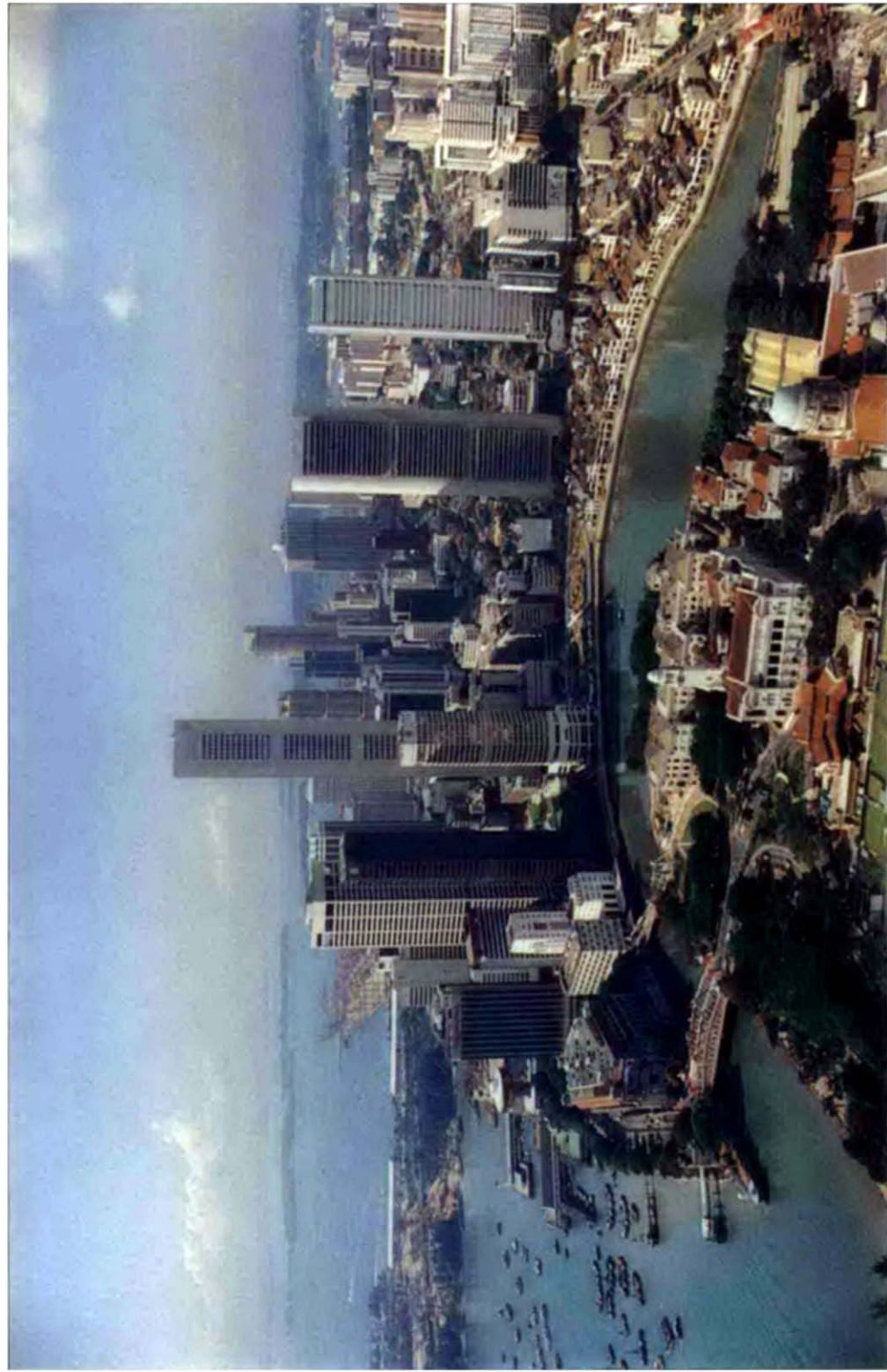
Reproduced from *Management of Success: The Moulding of Modern Singapore* edited by Kernal Singh Sandhu and Paul Wheatley (Singapore: Institute of Southeast Asian Studies, 1989). This version was obtained electronically direct from the publisher on condition that copyright is not infringed. No part of this publication may be reproduced without the prior permission of the Institute of Southeast Asian Studies. Individual articles are available at < <http://bookshop.iseas.edu.sg> >

---

# **MANAGEMENT OF SUCCESS**

## **THE MOULDING OF MODERN SINGAPORE**

---



Central Singapore from the helipad of the seventy-three storey Westin Stamford Hotel. (Photograph by the Editors.)

---

# MANAGEMENT OF SUCCESS

## THE MOULDING OF MODERN SINGAPORE

---

Edited by

KERNIAL SINGH SANDHU  
PAUL WHEATLEY

WITH CONTRIBUTIONS FROM

SYED HUSSEIN ALATAS • W TIMOTHY AUSTIN • G W BARTHOLOMEW  
RALPH C BRYANT • CHAN HENG CHEE • CHENG SOO MAY • CHIA LIN SIEN  
CHIA SIOW YUE • CHUA BENG HUAT • FERLIDUN FISHARAKI • RONALD FINDLAY  
ARTHUR LIE GILBERT • HERBERI G GRUBEL • HO WING MENG  
MEHEROO JUSSAWALLA • KOH AI TEE • KOH TAI ANN • LAWRENCE B KRAUSE  
LEF BOON HIOK • EDWIN LEE • LEE SOO ANN • MICHAEL LEIFER  
LIM CHONG YAH • LINDA YC LIM • SHIRLEY LIM • TREVOR LING  
JUZAR MOTIWALLA • ONG JIN HUI • OOI GIOA LING • PANG ENG FONG  
V SETHY PENDAKUR • PHILIP N. PILLAI • CEDRIC PUGH • NIRMALA PURU SHOTAM  
JON S T QUAH • STELLA R QUAH • HANS CHRISTOPH RIEGER  
SEAH CHEE MEOW • SHARON SIDDIQUE • TAN CHWEE HUAT • KEVIN TAN YEW LEL  
TAY KHENG SOON • THAM SEONG CHEE • EDWIN THUMBOO  
ROBERT O. TILMAN • N VARAPRASAD • RAJ VASIL • EZRA F. VOGEL  
WANG GUNGWU • W E WILLMOTT • AINE K WONG • WONG POH POH  
YAP MUI TENG • STEPHEN H K YEH

 INSTITUTE OF SOUTHEAST ASIAN STUDIES



## INSTITUTE OF SOUTHEAST ASIAN STUDIES

The *Institute of Southeast Asian Studies* was established as an autonomous organization in May 1968. It is a regional research centre for scholars and other specialists concerned with modern Southeast Asia, particularly the multi-faceted problems of stability and security, economic development, and political and social change.

The *Institute* is governed by a twenty-two-member Board of Trustees comprising nominees from the Singapore Government, the National University of Singapore, the various Chambers of Commerce, and professional and civic organizations. A ten-man Executive Committee oversees day-to-day operations, it is chaired by the Director, the *Institute's* chief academic and administrative officer.

*Published by*  
*Institute of Southeast Asian Studies*  
*Heng Mui Keng Terrace*  
*Pusat Panjang*  
*Singapore 0511*

*All rights reserved*  
*stored in a retrieval system, or transmitted in any form or by any means,*  
*electronic, mechanical, photocopying, recording or otherwise, without*  
*the prior permission of the Institute of Southeast Asian Studies*

© 1989 *Institute of Southeast Asian Studies*  
First reprint 1990

---

### Cataloguing in Publication Data

---

Management of success . the moulding of modern Singapore / editors.  
Kernal Singh Sandhu, Paul Wheatley.

1. Singapore--Politics and government.
2. Singapore--Economic policy.
3. Singapore--Social policy.
4. Singapore--Social conditions.
5. Urban policy--Singapore.

I. Sandhu, Kernal Singh.

II. Wheatley, Paul, 1921-

III. Institute of Southeast Asian Studies

DS599 2 M26 1989

ISBN 9971-988-96-8 (hard cover)

ISBN 981-3035-42-0 (soft cover)

---

The responsibility for facts and opinions expressed in this publication rests exclusively with the authors and their interpretations do not necessarily reflect the views or the policy of the Institute or its supporters

*Typeset by The Fototype Business*

*Printed in Singapore by Chong Moh Offset*

# PREFACE

A small lozenge-shaped island a mere 42 km. from east to west by 23 km. from north to south, devoid of significant natural resources other than a nodal location; and constituted as a colony in a crumbling empire – such was Singapore immediately prior to its attainment of internal self-government in 1959. The entrepôt functions that had dominated its economy since the founding of the city in 1819 were stagnating and its once pre-eminent role in imperial defence strategy becoming progressively less relevant to the political rivalries of the second half of the twentieth century. The concentration of at least a third of its 1.5 million polyglot, but ethnically segregated, population in 4 sq. miles in the south of the island had resulted in a severe housing shortage that was exacerbated by widespread decay of the housing stock, fragmented land ownership that inhibited planning and development, and unrestrained population growth. Fewer than one in five dwellings was furnished with sewer-connected sanitary facilities. Industry was poorly developed and its expansion hindered by, among other things, a public transport system that was inefficient by any standard other than profitability and controlled by a management obdurately unresponsive to the needs of the populace. It followed that unemployment and underemployment were endemic and poverty ubiquitous. Education, so far as the government was concerned, was élitist, separatist, and based in both principle and substance on the English model: communities whose members did not wish to avail themselves of an English-language education were left very largely to their own resources, with the result that only one out of two inhabitants was literate in any of the island's languages. Predictably there was only a poorly developed sense of public life; opportunities for participating in civic endeavour transcending ethnic interests were rare, and the electoral franchise, except at the very end of the period, severely restricted. The stability that had hitherto generally characterized British rule was being subverted by an ethnic chauvinism manifested in so-called "racial" rioting and student militancy, and the likelihood of a strong government emerging from impending general elections appeared slim as the conservatively inclined parties were in disarray and the left wing riven by bitter antagonisms between democratic socialists and pro-communists. In any case, the chances were – or so it seemed – that whichever party prevailed in the elections was doomed eventually to be subverted by communal recusancy or communist intransigence. As for complete

political independence, it seemed an impracticable dream, and even decolonization through some form of merger with independent Malaya a possibility only in a distant future.

Some thirty years later the island and its people have been transformed beyond anything that could have been reasonably envisaged in 1959. What was then an ideal has been conjured into something approaching reality. Communism has been repudiated and communalism rendered quiescent. Singapore is now a modern, secular, independent republic with a parliamentary system in the charge of one of the most stable and respected governments in Asia. It boasts an advanced mixed-enterprise economy with a high rate of growth, an exceptionally strong currency, one of the lowest inflation rates in the world, and what must surely be the highest rate of personal saving. It is also a focus of vigorous cross-border and cross-currency financial transactions, is an especially favoured locale for transnational corporations, and supports an around-the-clock, global financial market. Its port is pre-eminent in the world in tonnage of both ships handled and bunkers delivered, and its oil installations are third in refining capacity. It is also the world's third largest oil-trading centre and the second largest builder of drilling rigs. Its manufacturing sector is characterized by sophisticated technology and automation, especially in relation to information services, with the electronics industry pre-empting no less than a quarter of the work-force; as a result, the city is well on the way to becoming a major regional information centre. Its population of 2.6 millions has been partially re-deployed across the island in comprehensively planned and virtually self-sufficient new towns and housing estates, and the discordant, slum-ridden fabric of the old urban nucleus on the south side of the island reworked into a modern, efficiently serviced, tropical garden city. Today over four-fifths of the island's inhabitants reside in government-administered, predominantly high-rise, flats, more than two-thirds of which are *owner-occupied* or on the way to becoming so, and which are replete with the durable consumer goods common in the industrial nations of the West. Almost all homes are furnished with sewer-connected sanitary facilities. Population growth has been brought under control, life expectancy raised considerably, and infant mortality reduced below that obtaining in the United States. Unemployment is maintained at a very low level, while a standard of living second in Asia only to that of Japan and underpinned by generous retirement provisions is producing a substantial middle class whose interests are beginning to transcend the old loyalties of kin, language, and religion. A revamped educational system integrated with the practice of development planning is providing a skilled and adaptable work-force. A preventive and deterrent mode of law enforcement, combined with the active involvement of neighbourhood groups in social control, ensures that crime rates are lower than those in most Western nations. And a thoroughly modernized infrastructure of utilities, communications, and transport, the last including both a mass rapid transit system and one of the world's most successful

airlines, make for comfort and convenience in what Singaporeans properly call their global city.

These are the remarkable transformations that have taken place in the island-republic during the last quarter of a century or so, and the chapters in this book attempt to elicit the means by which they have been effected, to assess the measure of their success, and, perhaps, incidentally to gain some understanding of the reasons why the standard prescriptions for development and modernization are so little applicable to the Singapore experience. An introductory outline of the colonial context within which the People's Action Party came to power is followed successively by evaluations of government policy and practice during recent decades (Chapters 2–8), of the restructuring of the economy that has taken place in that time (Chapters 9–20), of the social transformations that have accompanied it (Chapters 21–27), of concomitant modifications in the legal system and cultural matrix of the island (Chapters 28–33), of the manner in which these and other institutional changes have been imprinted on the landscape (Chapters 34–38), of the way in which Singapore is responding to the information revolution (Chapters 39 and 40), and of its handling of security questions and of its conduct of foreign policy (Chapters 40–43). Although the chapters speak for themselves and require no asseverative recapitulations, we have thought it appropriate to add two concluding sections (Chapters 45–49), one probing what we imply when we congratulate ourselves on the absence of corruption in Singapore and expressing what recent changes in life-style mean to a thoughtful resident and a discerning visitor, the other assessing Singapore's achievements in comparison with those of the other Little Dragons and providing a commentary on the volume's findings, as well as casting a glance to the future. All the chapters have been written specially for this volume.

An average annual real-growth rate of 9.9 per cent for nearly two decades as against 3.5 per cent for the world as a whole, high real per capita incomes, full employment, cheap housing for more than two million people, sophisticated industrial technology, a reputation for efficiency and administrative probity, impressive standards of public health and education, a commodious, architecturally imposing, and functionally efficient city – all clearly bespeak success, and it is not the intention of the contributors to or editors of this volume in any way to depreciate those achievements or, with the benefit of hindsight, to second-guess important government decisions. In any case, this last would prove impracticable in the absence of a publicly available record of Cabinet discussions about alternative policies. We have been able only to report the policies that were in fact adopted, describe the manner of their implementation, infer from the structural circumstances of the time and government *ex post facto* rationales why those policies prevailed over others, and attempt to explain, in so far as the record permits, why they accomplished the results they did. No serious student of the Singapore experience during the past thirty years denies that extraordinary

advances have been made: it is our purpose not to deny those advances but to elicit the *relative degrees and quality of success* attained in different sectors of the societal community. In appropriate instances we have also speculated as to whether different policies might have proved more rewarding. Even when a policy or a programme has been adjudged successful, we have tried to assay its unpublicized, perhaps unrecognized or unacknowledged, costs to polity and society. We believe that the resulting essays together offer the most comprehensive evaluation of the achievements of the government and people of Singapore published to date. Previous works in the same vein, it is true, have dealt with certain themes in greater detail than can be undertaken here but none has hitherto attempted to take note, at least in outline, of all the principal subsystems of society. It goes without saying that production of a volume of this size and complexity inevitably entails the preparation of some papers well in advance of others, thereby imposing an earlier cut-off date on the information to be included. In any case, we would stress that this book is neither an attempt to compile a handbook on Singapore, the People's Action Party, or the government, nor a compendium of up-to-date statistics. Rather it is a structured collection of analytical reflections on how Singapore has wrought a transformation of major proportions during the past three decades, and should be read as such. Of course, most of the factual material contained between the covers of this book will already be familiar to Singaporeans, but it cannot be doubted that the great developmental experiment to be described in the following pages merits a much wider audience, and it is those readers whom we have had most in mind during the preparation of this volume. Consequently we have deemed it appropriate to incorporate in the text a certain amount of explanatory material which some Singaporeans may regard as otiose. Explaining the terms *compradore* or *tokay* or *void deck* or providing an extended version of ANZUS may seem supererogatory to Singaporeans who read this book but may well be perceived as useful assistance by an economist in Rio de Janeiro or a sociologist in Chicago.

The circumstance that the government whenever possible has pursued an integrative approach to development in which a single policy has been made to serve a plurality of purposes inevitably introduces an element of artificiality into strictly analytical studies of specific policies. For this reason, and to furnish reader consulting particular sections for comparative materials with sufficient background information to render the data intelligible, we have permitted a minor amount of duplication between chapters, so that almost all of them can be read as self-contained essays. As a concession to the diversity of topics discussed and resulting differences in scholarly styles, we have permitted minor variations between chapters in the mode of referencing, but in all instances adequate information is provided to identify the source *in question*. In the explicatory notes appended to some chapters full bibliographic citations are provided on first mention but abbreviated titles for the rest of the particular chapter. Personal names are rendered in the transcriptions customarily used by the people



---

concerned, even though the resulting forms may not accord with current scientific practice. All money rates quoted in the text are in Singapore dollars unless specified otherwise.

The editors and the contributors wish to thank the Lee Foundation, and especially Mr Lee Seng Gee, for the very generous financial assistance without which the preparation of this volume could not have been undertaken. The editors, for their part, are sensible of the debt they owe to the fifty-four authors who generously permitted their essays to be modified and amended to produce a unitary and cohesive book, as well as to the cadre of colleagues who, during the past five years, have given generously of their time and effort to advance this work in ways too numerous to mention.

*Singapore*  
*January 1989*

KERNIAL SINGH SANDHU  
PAUL WHEATLEY

# NOTES ON SINGAPORE

## THE REPUBLIC OF SINGAPORE STATISTICAL SUMMARY OF TOPOGRAPHICAL CHARACTERISTICS AT THE BEGINNING OF THE 1980s

(Based mainly on the 1981/82 Land and Building Use Survey by the Planning Department of the Ministry of National Development, Republic of Singapore)

Total land area: 61,810 hectares (618 sq. km.)

Main island: 57,040 hectares (92 per cent of total area); maximum dimensions 42 × 23 km.

More than forty offshore islands: 4,770 hectares (8 per cent of total land area); ranging in size from Pulau Tekong Besar (1,792 hectares) to Pulau Biola (0.4 hectare); 10 per cent increase from 1967 to 1982.

Built-up areas: 25,953 hectares (46 per cent of main island).

Residential uses. 8,716 hectares (15 per cent of area of main island); 530,000 dwelling units (92 per cent of permanent materials); 425,680 flats (80 per cent of housing stock); 400,656 (94 per cent) under HDB management; 24,729 terrace and row houses (5 per cent of housing stock); 14,228 semi-detached houses (3 per cent of housing stock); detached houses (2 per cent of housing stock); 12,141 shophouses (2 per cent of housing stock); 36,666 temporary dwellings (7 per cent of housing stock).

Commercial uses: 803 hectares (2 per cent of area of main island); 8.8 million sq. metres of floor space; 3.2 million sq. metres in shops (36 per cent of total floor space); 3.0 million sq. metres in offices (35 per cent of total floor space); 0.8 million sq. metres in hotels (14,000 hotel rooms occupying 9 per cent of total commercial floor space); 0.7 million sq. metres in restaurants (8 per cent of total floor space).

Industrial uses: 4,118 hectares; 773 hectares on offshore islands; 3,345 hectares on the main island (6 per cent of total land area; 9.8 million sq. metres of

industrial floor space); 6.0 million sq. metres of floor space in detached and semi-detached factories (61 per cent of total industrial floor space); 2.0 million sq. metres of floor space in flatted factories (20 per cent of total industrial floor space); 1.2 million sq. metres in row or terrace factories (12.5 per cent of total industrial floor space); 0.6 million sq. metres in various other industrial buildings, often of a temporary nature (6 per cent of total industrial floor space).

Warehousing: 522 hectares on the main island (1 per cent of total land area); 108 hectares of temporary structures used mainly for open storage; 2.6 million sq. metres of floor space; 68,150 sq. metres in temporary structures (2.6 per cent of total warehousing floor space).

Educational uses: 1,142 hectares, all on the main island (2 per cent of total area on the island); 271 primary schools, 111 secondary schools, 22 combined or full schools, 16 vocational institutes, 9 junior colleges, 5 tertiary institutions.

Telecommunications and public utilities: 1,002 hectares (1.8 per cent of total area of the main island); 35 per cent (349 hectares) for telecommunication stations; 65 per cent for public utilities: sewage treatment 348 hectares; refuse disposal (including incinerators, tipping grounds, and composting plant) 202 hectares, power stations, gasworks, and covered reservoirs 103 hectares.

Transportation: 7,460 hectares (13.1 per cent of total land area). Public roads 4,389 hectares (59 per cent of land used for transportation purposes; 2,500 km.): expressways 246 hectares; collecting roads 519 hectares; arterial roads 1,361 hectares; local roads 2,263 hectares. Airports/airfields 23 per cent of land used for transportation purposes; all other transportation uses (including ports, railways, bus interchanges, vehicle depots, and parking areas) 18 per cent of total land used for transportation purposes

Agricultural uses: 8,101 hectares (14 per cent of area of the main island), 84 per cent of land in this category is in farms licensed by the Department of Primary Production mainly for vegetable production (40,000 tonnes) and livestock farming (895,000 pigs, 32 million chickens, 4.4 million ducks, 525 million eggs).

Open spaces and recreational uses: 1,725 hectares (3 per cent of total area of main island; 0.72 hectares per 1,000 persons). Passive recreation facilities (local and regional parks, nature reserves) 530 hectares (31 per cent of land in open spaces and recreational uses); active recreation facilities (swimming pools, sports centres, beaches, playing fields, polo grounds, golf courses) 1,195 hectares (69 per cent of land in open spaces and recreational uses).

Land vacant or land in the process of being cleared: 9,318 hectares (16 per cent of total area of the main island); 80 per cent of vacant land already committed for public development.

# CONTENTS

<i>Preface</i>	v
<i>Notes on Singapore</i>	x
<i>Figures</i>	xviii
<i>Tables</i>	xxi
<i>Plates</i>	xxv

## SECTION 1: SINGAPORE'S INHERITANCE

1. The Colonial Legacy	3
EDWIN LEE	

## SECTION 2: LEADERSHIP AND POLICY

2. The Political Leadership: Lee Kuan Yew and the PAP Team	53
ROBERT O. TILMAN	
3. The PAP and the Structuring of the Political System	70
CHAN HENG CHEE	
4. The Bureaucracy	90
LEE BOON HIOK	
5. The Limits of Government Intervention	102
JON ST. QUAH AND STELLA R. QUAH	
6. The Management of People	128
PANG ENG FONG, TAN CHWEE HUAT, AND CHENG SOO MAY	
7. Trade Unions	144
RAJ VASIL	
8. Social Welfare	171
LINDA Y.C. LIM	

## SECTION 3: THE RESTRUCTURING OF THE ECONOMY

- |   |     |
|---|-----|
| 9. From High Growth Rates to Recession<br>LIM CHONG YAH                     | 201 |
| 10. Theoretical Notes on Singapore as a Development Model<br>RONALD FINDLAY | 218 |
| 11. Diversification of Trade<br>KOH AI TEE                                  | 227 |
| 12. The Character and Progress of Industrialization<br>CHIA SIOW YUE        | 250 |
| 13. Expansion of the Services Sector<br>LEE SOO ANN                         | 280 |
| 14. Singapore as an Oil Centre<br>FEREIDUN FESHARAKI                        | 300 |
| 15. The Port of Singapore<br>CHIA LIN SIEN                                  | 314 |
| 16. The Evolution of Singapore as a Financial Centre<br>RALPH C. BRYANT     | 337 |
| 17. Singapore's Record of Price Stability, 1966-84<br>HERBERT G. GRUBEL     | 373 |
| 18. Elaboration of the Transport System<br>V SETTY PENDAKUR                 | 399 |
| 19. Providing Mobility and Accessibility<br>N. VARAPRASAD                   | 420 |
| 20. Government as Entrepreneur<br>LAWRENCE B. KRAUSE                        | 436 |

## SECTION 4: THE TRANSFORMATION OF SOCIETY

- |   |     |
|---|-----|
| 21. The Demographic Base<br>YAP MUI TENG                        | 455 |
| 22. The Perception and Practice of Education<br>THAM SEONG CHEE | 477 |

23.	Language and Linguistic Policies NIRMALA PURU SHOTAM	503
24.	The English-Language Writer in Singapore SHIRLEY LIM	523
25.	The Chinese as Immigrants and Settlers WANG GUNGWU	552
26.	Singaporean Identity SHARON SIDDIQUE	563
27.	The Emergence of Nationalism W.E. WILLMOTT	578

SECTION 5: THE LAW

28.	The Singapore Legal System G.W. BARTHOLOMEW	601
29.	Constitutional Development PHILIP N. PILLAI AND KEVIN TAN YEW LEE	647

SECTION 6: VALUE SYSTEMS

30.	Value Premises Underlying the Transformation of Singapore HO WING MENG	671
31.	Religion TREVOR LING	692
32.	Culture and the Arts KOH TAI ANN	710
33.	Self-Images: Contexts for Transformations EDWIN THUMBOO	749

SECTION 7: MODIFICATION OF THE ENVIRONMENT

34.	The Transformation of the Physical Environment WONG POH POH	771
35.	Spatial Reorganization ALINE K. WONG AND OOI GIOK LING	788

- 
- |     |  |     |
|-----|--|-----|
| 36. | The Idea of the Garden City<br>STEPHEN H.K. YEH            | 813 |
| 37. | The Political Economy of Public Housing<br>CEDRIC PUGH     | 833 |
| 38. | The Architecture of Rapid Transformation<br>TAY KHENG SOON | 860 |

#### SECTION 8: TOWARDS AN INFORMATION SOCIETY

- |     |   |     |
|-----|---|-----|
| 39. | Managing the Information Revolution<br>JUZAR MOTIWALLA AND ARTHUR LEE GILBERT | 881 |
| 40. | Singapore in the Computer Age<br>MEHEROO JUSSAWALLA                           | 892 |

#### SECTION 9: COMMUNITY AND NATIONAL SECURITY

- |     |  |     |
|-----|--|-----|
| 41. | Crime and Control<br>W. TIMOTHY AUSTIN | 913 |
| 42. | Community Security<br>ONG JIN HUI      | 928 |
| 43. | National Security<br>SEAH CHEE MEOW    | 949 |

#### SECTION 10: FOREIGN RELATIONS

- |     |   |     |
|-----|---|-----|
| 44. | The Conduct of Foreign Policy<br>MICHAEL LEIFER | 965 |
|-----|---|-----|

#### SECTION 11: LIFE IN SINGAPORE

- |     |  |      |
|-----|--|------|
| 45. | The Problem of Corruption<br>SYED HUSSEIN ALATAS                                     | 985  |
| 46. | The Business of Living in Singapore<br>CHUA BENG HUAT                                | 1003 |
| 47. | The Quality of Life in Singapore: A Foreigner's Reflections<br>HANS CHRISTOPH RIEGER | 1022 |

---

SECTION 12: THE RECKONING

48. A Little Dragon Tamed EZRA F. VOGEL	1049
49. Challenges of Success THE EDITORS	1067
<i>The Contributors</i>	1107
<i>Index</i>	1123



# FIGURES

9:	<i>From High Growth Rates to Recession</i>	
9.1.	Real GDP growth rates of East Asian countries, 1984–87	211
10:	<i>Theoretical Notes on Singapore as a Development Model</i>	
10.1.	Factor-price frontier	220
10.2.	Supply and demand for non-traded goods	221
15:	<i>The Port of Singapore</i>	
15.1.	The port system of Singapore	316
15.2.	Changes in the limits of the Port of Singapore	320
15.3.	Changes in the Tanjong Pagar Container Terminal and adjacent Telok Ayer Wharves, 1969–84	323
15.4.	Tanjong Pagar Container Terminal and projected development on Pulau Brani	328
16:	<i>The Evolution of Singapore as a Financial Centre</i>	
16.1.	Assets of financial intermediaries relative to gross domestic product	345
16.2.	Average daily foreign-exchange turnover in Singapore in relation to Singapore economic variables	346
16.3.	Banking assets in Singapore in relation to international trade in the Asia-Pacific region, 1965–84	353
16.4.	Net asset position of Asian currency units in Singapore <i>vis-à-vis</i> the main geographical regions, 1976–83	357
17:	<i>Singapore's Record of Price Stability, 1966–84</i>	
17.1.	Inflation rates (CPI) for Singapore and the non-communist world, 1966–84	374
17.2.	Real GDP growth rates for Singapore and the non-communist world, 1966–84	375
17.3.	A monetarist model of Singapore	377
17.4.	Capital and international-reserve gains, 1966–83	381
17.5.	Singapore prices and exchange rates, 1966–83	382

17.6.	Singapore government debt, international reserves, and Central Provident Fund liabilities, 1966-83	385
17.7.	Singapore government debt, international reserves, and Central Provident Fund liabilities, 1966-84	386
17.8.	Net borrowing requirements and net debt growth, 1966-83	387
17.9.	Real monthly earnings and productivity, 1973-84	393
18:	<i>Elaboration of the Transport System</i>	
18.1.	Generalized growth patterns for Singapore, 1972-83	404
18.2.	Wage and price indices, 1972-81	404
18.3.	Growth of car ownership in Singapore, 1968-84	405
18.4.	Car ownership in Asia	406
18.5.	Changes in daily travel behaviour immediately before and after the institution of the Area Licensing Scheme in 1975	409
18.6.	Vehicles entering the Restricted Zone during peak-traffic hours, 1975-83	411
18.7.	Total number of cars entering the Restricted Zone during peak-traffic hours, 1975 and 1983	412
18.8.	Total number of vehicles entering the Restricted Zone during peak-traffic hours, 1975 and 1983	412
18.9.	Modes of travel from homes to workplaces in the Restricted Zone during peak-traffic hours, 1983	413
18.10.	Singapore's mass rapid transit system	415
21:	<i>The Demographic Base</i>	
21.1A.	Changes in the age pattern of fertility, 1965-85: Chinese	459
21.1B.	Changes in the age pattern of fertility, 1965-85: Malays	460
21.1C.	Changes in the age pattern of fertility, 1965-85: Indians	461
21.2.	Mean number of living children by marriage cohort	463
21.3.	Population social policies and the crude birth rate, 1965-84	468
22:	<i>The Perception and Practice of Education</i>	
22.1.	The educational ladder in Singapore	485
31:	<i>Religion</i>	
31.1.	The parallel between the religious situation in Singapore and in Sri Lanka	703
33:	<i>Self-Images: Contexts for Transformations</i>	
33.1.	Major normatives	758
33.2.	Normatives: stability and change	759
34:	<i>The Transformation of the Physical Environment</i>	
34.1.	Singapore: topography, 1960	773
34.2.	Singapore: topography, 1984	776

35:	<i>Spatial Reorganization</i>	
35.1.	Singapore: land utilization in 1960	792
35.2.	Singapore: planning areas, 1975	793
35.3.	Singapore: elements of the State and City Concept Plan	796
35.4.	Singapore: urban growth, 1819-79	797
35.5.	Singapore: land utilization in 1982	799
35.6.	Singapore: land utilization in the Central Area, 1955 and 1982	800
35.7.	Singapore: housing developments, 1960-80	803
35.8.	Singapore: industrial land-use developments, 1960-80	805
35.9.	Singapore: land-use distributions in 1967 and 1982	808
36:	<i>The Idea of the Garden City</i>	
36.1.	Concept Plan of the Central Area Open Space and Pedestrian System	823
37:	<i>The Political Economy of Public Housing</i>	
37.1.	The Singapore housing system, 1985	843
37.2.	Distribution of household income and the Singapore housing system	845
39:	<i>Managing the Information Revolution</i>	
39.1.	Relative dominance of the major factors involved in the organizational use of computing and information systems	886
39.2.	Primary directions of change among factors involved in the organizational use of computing and information systems	887
40:	<i>Singapore in the Computer Age</i>	
40.1A.	Singapore: annual average percentage changes in the gross domestic product, 1966-85	895
40.1B.	Singapore: unit-labour costs in manufacturing, 1980-84	895
40.2.	U.S. trade with Pacific Rim and Western European nations, 1978-83	905

# TABLES

7:	<i>Trade Unions</i>	
7.1.	Assets and Business Turnover of NTUC Co-operatives	162
7.2.	NWC Annual Recommendations for Wage Increases	163
7.3.	Gross Domestic Product of Singapore, 1968-78	163
7.4.	Membership of Trade Unions in Singapore, 1970-84	164
9:	<i>From High Growth Rates to Recession</i>	
9.1.	Average Annual Growth Rates (%) in Real GNP per Capita of Selected Regions and Countries, 1965-84	203
9.2.	Average Annual Rates of Inflation (%) for Some Upper Middle-Income Countries, 1965-73 and 1973-84	204
9.3.	Life Expectancy and Infant Mortality Rates for Selected Regions and Countries, 1965 and 1984	205
9.4.	The Changing Economic Structure of Singapore, 1965 and 1984	206
9.5.	Recent Real GDP Growth Rates of East Asian Countries	209
9.6.	Percentage Changes in Exports from East Asian Countries, 1984-85	210
9.7.	Percentage Changes in Prices of Commodities, 1984-85 and 1985-86	210
11:	<i>The Diversification of Trade</i>	
11.1.	Selected Ratios of Services Trade, 1965-86	231
11.2.	Exports and Net Foreign-Exchange Earnings by Industry, 1983	231
11.3.	Growth Rate of Real GDP by Industry, 1960-86	232
11.4.	Singapore's Labour Productivity by Industry, 1970-86	233
11.5.	Selected Ratios of Singapore's Domestic Exports and Re-Exports, 1965-86	234
11.6.	Singapore's Exports (Total and Domestic) by Region and Country, 1965-85	235
11.7.	Singapore's Exports (Total and Domestic) by Commodity, 1965-86	236
11.8.	Percentage Shares of Singapore's Domestic Manufactured Exports by Destination and Commodity, 1970-85	237

11.9A.	Percentage Shares of Singapore's Imports by Country Source, 1965-85	238
11.9B.	Percentage Shares of Singapore's Imports by Commodity, 1965-86	239
11.10.	Strategic Export Options	241
12:	<i>Industrialization</i>	
12.1.	Singapore: Value Added in the Manufacturing Sector, 1960-86	253
12.2.	Singapore: Sources of Demand Growth in the Manufacturing Sector, 1960-85	256
12.3.	Singapore: Foreign Investment in the Manufacturing Sector, 1965-85	260
12.4.	Singapore: Selected Ratios of Foreign and Local Establishments in Manufacturing, 1985	261
13:	<i>Expansion of the Services Sector</i>	
13.1.	Real Output Growth and the Major Sectoral Pattern, 1960-85	282
13.2.	Employment by Industry, 1981 and 1985	283
13.3.	Industry Composition of Tertiary-Sector Output, 1960-86	284
13.4.	Sectoral Productivity, 1975 and 1984	287
13.5.	Percentage Share of Total Employment by Industry, 1976-84	289
14:	<i>Singapore as an Oil Centre</i>	
14.1.	The Singapore Refining Industry	304
14.2.	Partial Listing of Singapore-Based Oil-Trading Companies	305
15:	<i>The Port of Singapore</i>	
15.1.	Navigable Dimensions of Approaches to the Port of Singapore	317
15.2.	Sea-Borne Cargo Discharged and Loaded, 1953-86	326
15.3.	Indexes of Productivity for the Principal Gateways to the Port of Singapore	330
16:	<i>The Evolution of Singapore as a Financial Centre</i>	
16.1.	Total Assets of Financial Institutions in Singapore, 1968-84	343
18:	<i>Elaboration of the Transport System</i>	
18.1.	Import Duty and Registration Fees for Cars	403
18.2.	Annual Road Tax on Cars	403
18.3.	ALS Fees, 1975-85	408
20:	<i>Government as Entrepreneur</i>	
20.1.	Measurements of the Role of Government in the Economies of Singapore, Korea, and Taiwan, 1984	441
20.2.	Growth in Public Enterprises in Singapore, 1960-83	442

21:	<i>The Demographic Base</i>	
21.1.	Components of Population Growth, 1965-85	456
21.2.	Age-Specific Fertility Rates, Total Fertility Rates, and Gross and Net Reproduction Rates for Ethnic Groups in Selected Years, 1965-85	458
21.3.	Mean Number of Children Preferred by Married Women by Ethnicity and Year	462
21.4.	Change in the Total Fertility Rate, 1965-85	464
21.5.	Distribution of Population by Broad Age Groups, 1965 and 1985	465
21.6.	Contraceptive Prevalence by Country and Year	469
23:	<i>Language and Linguistic Policies</i>	
23.1.	Medium of Education and Student Enrolment, 1985	510
31:	<i>Religion</i>	
31.1.	Population Growth Rate in Singapore, 1970-77	698
31.2.	Population Growth Rate in Singapore, 1957-62	699
34:	<i>The Transformation of the Physical Environment</i>	
34.1.	Land Utilization in Singapore, 1960-85	774
34.2.	Types of Changes in the Physical Environment of Singapore	774
35:	<i>Spatial Reorganization</i>	
35.1.	Land Use on Singapore Main Island, 1967	790
35.2.	Population and Housing Estimates, 1985	802
35.3.	Changes in Population Distribution, 1970-80	806
37:	<i>The Political Economy of Public Housing</i>	
37.1.	Dwellings Completed by the Housing and Development Board, 1960-84	834
37.2.	Withdrawal of Central Provident Fund Savings under Approved Public-Housing Schemes, 1975-83	844
37.3.	Capital Expenditure and Government Grants to the Housing and Development Board, 1960-84	850
37.4.	Estimates of Poverty in Singapore, 1954 and 1973	851
37.5.	Housing Statistics and the Economy, 1975-84	854
39:	<i>Managing the Information Revolution</i>	
39.1.	Indicators of Growth in Computer Technology	882
40:	<i>Singapore in the Computer Age</i>	
40.1A.	Distribution of Computers in Hong Kong and Singapore by Unit Size and Value	901
40.1B.	Shares of Suppliers of Computers to the Singapore Market	901

41:	<i>Crime and Control</i>	
41.1.	A Typology of Police and Community Involvement in Interpersonal Disputes	921
47:	<i>Quality of Life in Singapore</i>	
47.1.	Physical Quality of Life Indices	1025

# PLATES

*Central Singapore*

*Frontispiece*

*Between pages 198 and 199*

- I. Central Singapore from the helipad of the Westin Stamford Hotel
- II. Changes in the Singapore skyline between 1963 and 1986
- III. The Singapore skyline from Benjamin Sheares Bridge, 1988
- IV. The inaugural meeting of the People's Action Party, 21 November 1954
- V. The first Cabinet of independent Singapore, 1959
- VI. The Singapore Cabinet before the 1988 general election
- VII. The Singapore Cabinet after the 1988 general election
- VIII. The old and the new: the venerable Raffles Hotel flanked by two of Singapore's most modern hotels
- IX. Proclamation of Singapore as an independent and sovereign state, 9 August 1965
- X. Traffic at the intersection of Orchard and Scotts Roads when the Area Licensing Scheme is, and is not, in operation
- XI. Seven modes of travel in Singapore

*Between pages 982 and 983*

- XII. Aerial view of Tampines
- XIII. Toa Payoh in 1961 and 1977
- XIV. Yishun Housing Estate
- XV. Waterfall Gardens
- XVI. The Shenton Way complex
- XVII. Kallang Community Centre
- XVIII. Restoration of Chinese shophouses in Mosque Street
- XIX. Chinese banks in and around Raffles Place
- XX. The Oversea-Chinese Banking Corporation Centre
- XXI. The Prime Minister and Members of Parliament rehearsing songs for Singapore's National Day, 1987
- XXII. Contrasting levels of retailing and servicing