

Recent Contributions to the Geography of South Asia

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Recent Contributions to the Geography of South Asia*

Since O. H. K. Spate's 1950 review article,¹ summarizing contributions to the geography of India and Pakistan before the dissolution of the British Raj, geography has made a substantial advance in both research and education in the Indian subcontinent. This growth is reflected in the expansion of geography teaching at universities and colleges and the increasing number of geography books and journals now being published in India and Pakistan. Professor Chatterjee, of Calcutta University, has summarized the progress of geography in India in a comprehensive volume published recently by the Indian Science Congress.²

It should be noted at the outset that the quality of geographic instruction, research and publication remains uneven. Although several Indian and Pakistani universities award Honours and M.A. Degrees, only a few have strong geography departments. The most outstanding geography department in India is at Banaras (Varanasi), where the Faculty is very active in research under the able guidance of professor R. L. Singh. In recent years several major geographical books have been authored by Banaras Faculty members.

In Pakistan geography is most vigorous at Dacca in East Pakistan and at Lahore in West Pakistan. In Nepal geography is taught up to the Master's level at Tribhuban University in Katmandu, and there has been a geography department at Ceylon since 1942. At least one or more geographers on the Faculty at each of the above schools have had advanced training at universities in Europe or the U. S.

This paper attempts to review selected publications which have appeared since 1950. The emphasis of the present survey is largely on books written by native South Asian geographers. Only a few significant published works by European and American geographers and students in related fields have been included. Journal articles have been completely excluded from this review.

In general, official government publications are also not included in this review. It is assumed that students of South Asian geography are aware of the steady flow of materials from government departments of the various nations. In particular, official agencies such as the Departments of Census, Meteorology, Geological Survey and the Bureau of Statistics provide data of great geographical value in India and Pakistan.

Periodical sources are many and varied. Of the principal Indian periodicals, the *National Geographical Journal of India*, *Geographical Review of India*,

* The term South Asia as used in this paper refers to India, Pakistan, Ceylon, Nepal, Sikkim and Bhutan.

¹ SPATE, O. H. K., *Taking Stock in India and Pakistan: A Review*, in *Geographical Review*, Vol. 40, 1950, pp. 279-284.

² CHATTERJEE, S. P., *Fifty Years of Science in India: Progress of Geography*, Calcutta, Indian Science Congress Association, 1964, 277 pages.

and *Indian Geographical Journal*, published in Varanasi (Banaras), Calcutta and Madras respectively, are of major interest. Two other Indian journals, *Bombay Geographical Magazine* and *Deccan Geographer*, published since 1953 and 1962 respectively, contain materials of interest on all aspects of Indian geography. In Pakistan the *Geographical Review of Pakistan* and the *Oriental Geographer*, published in West and East Pakistan respectively, offer scholarly articles. Another journal, *Geografia*, was launched in 1962 by the Pakistan Institute of Geography at Karachi. *The Ceylon Geographer*, published by the Ceylon Geographical Society since 1945, contains scholarly articles on Ceylon.

With few exceptions, the published work of South Asian geographers reflects a general tendency toward encyclopedism, a lack of challenging interpretation of geographical facts, and failure to use analytical concepts. Applied studies are currently at an all-time peak and, for the most part, can be attributed to the economic development plans. A welcome feature is the upsurge of microgeographical studies from local scholars in various universities. These fragmented studies may eventually contribute to more substantial works. Interest in geomorphology remains high in South Asia, but in the number of geographers and their activities, human geography is becoming increasingly important. Settlement geography is becoming a strong point, with urban morphological studies predominating. Interest in economic geography, once limited mainly to agriculture, is expanding. This is most likely in response to the current preoccupation with measuring resource potential and the attempt to maximize its use.

South Asia: Country Studies

Spate's *India and Pakistan*⁴ is the most comprehensive work on South Asia. First published in 1954, it summarizes the many years of professor Spate's thinking, studying and writing on the Indian subcontinent. The second edition appeared in 1957, and a new third edition is scheduled to appear in 1966. This book has been widely reviewed and discussed as a standard work on the geography of the Indian subcontinent⁵.

Most of the book is rightly concerned with India and Pakistan, but Ceylon is given a brief treatment at the end in a 40 page chapter by B. H. Farmer. Nepal is described in about 10 pages, Sikkim receives two brief pages, and there are three paragraphs on Bhutan. It is hoped that the new 1966 revised edition will contain a more detailed treatment of the Himalayan countries.

India

Although there is no comprehensive geographical study of India by an Indian geographer, two recent books by Americans should be noted. Beatrice Lamb, who has made several trips to India, has packed all the essential information about the baffling country — its history, people, social system, villages and towns, its efforts toward development — in her well-written book.⁶ The chief merit of this book lies in the clarity of its organization and the brevity with which well-marshalled facts are presented. Its main weakness is failure to probe beneath the material so ably presented to a level deep enough to give the inquiring reader the feeling of having entered the world of India.

³ STONER, George E., Jr., *Notable Geographical Contributions of the Indian Census of 1961*, in *The Professional Geographer*, Vol. 17, November, 1965, pp. 17-20.

⁴ SPATE, O. H. K., *India and Pakistan: A General and Regional Geography*, Second revised edition, New York, E. P. Dutton and Co., Inc., 1957, 829 pages.

⁵ See *Geographical Review*, Vol. 45, 1955, pp. 436-437.

⁶ LAMB, Beatrice Pitney, *India: A World in Transition*, Revised edition, New York, Frederick A. Praeger, Publishers, 1966, 322 pages.

Walter Neale, an economist at the University of Texas, traces briefly but clearly India's quest for unity, democracy and economic progress.⁷ Neale is struck by the efforts of India's planners to raise living standards through constitutional process rather than by revolution or dictatorship as in most of the nations surrounding India. Yet her burdens are many — massive poverty, illiteracy, unemployment, untidiness and malingering in the lower echelons of government. This well-organized, clearly-reasoned volume is an excellent introduction to India's economic-geographical problems.

Pakistan

Professor Kazi Ahmad, of the University of Punjab at Lahore, presents a concise general geography of Pakistan in a small volume.⁸ His book is quite useful to the general reader. Special emphasis is given to terrain, resource and urban centers. The quality of illustrations and several original maps are fairly good. Its chief weakness lies in professor Ahmad's failure to provide geographical interpretation and an analysis of Pakistan's geographic patterns. However, he has successfully summed up the main geographical elements in Pakistan's make-up. Useful statistics pertaining to climate, crops, population and industries of Pakistan are given at the end of the book. Supplementing Kazi Ahmad's book is a text written by Helen Qurashi⁹ for use in Pakistani schools.

An outstanding book on Pakistan by a non-geographer is a study by Donald N. Wilber.¹⁰ This volume examines the culture, historical setting, geography, population and ethnic groups, religion, social structure, foreign relations, labor and agriculture, economic development plans, and foreign and domestic trade. A brief account of Pakistan is also given by Wilber in a recently published paperback.¹¹

Richard Weekes attempts to weave together all the diverse elements which make up Pakistan today in a brief volume.¹² Historical introduction occupies nearly one-third of the book. Aspects of family life are well presented. In discussing Pakistan's difficult search for identity, the author fails to focus on the chief problem: Pakistanis, though desiring separate identity, inherit a common Indian cultural legacy difficult to classify into clear-cut Indian and Pakistani categories.

Ian Stephens' *Pakistan*¹³ is a good survey of the nation's political history and major problems. Economic problems confronting Pakistan are described in detail by Andrus and Mohammed.¹⁴

Of all the recently published books, Wilber's *Pakistan: Its People, Its Society, Its Culture* is by far the best general and comprehensive survey of Pakistan. The sections on ethnology, social structure and languages are well

⁷ NEALE, Walter C., *India: The Search for Unity, Democracy, and Progress*, Searchlight Series No. 24, Princeton, New Jersey, D. Van Nostrand Company, Inc., 1965, 128 pages.

⁸ AHMAD, Kazi S., *A Geography of Pakistan*, Karachi, Oxford University Press, 1964, 216 pages.

⁹ QURASHI, Helen S., *A Junior Geography of Pakistan*, London, Oxford University Press, 1963, 198 pages.

¹⁰ WILBER, Donald N., *Pakistan: Its People, Its Society, Its Culture*, New Haven, Connecticut, Human Relations Area Files Press, 1954, 487 pages.

¹¹ WILBER, Donald N., *Pakistan: Yesterday and Today*, Contemporary Civilizations Series, New York, Holt, Rinehart and Winston, Inc., 1964, 266 pages.

¹² WEEKES, Richard V., *Pakistan: Birth and Growth of a Muslim Nation*, Princeton, D. Van Nostrand Co., 1964, 278 pages.

¹³ STEPHENS, Ian, *Pakistan*, New York, Praeger, 1963.

¹⁴ ANDRUS, J. Russall, and MOHAMMED, A. F., *The Economy of Pakistan*, Stanford, Stanford University Press, 1958.

written and most comprehensive. Geographers may be disappointed in his treatment of Pakistan's economy, but on the whole the high quality readability will make this book the basic source material for Pakistan.

Himalayan Kingdoms

In addition to the available geographical works on Nepal¹⁵ and other Himalayan countries,¹⁶ a number of recent books on the Himalayan area by scholars in related disciplines may be briefly noted. Geomorphologists will find a wealth of information on Himalayan physiography in a recent book by Gansser,¹⁷ which summarizes most of the available information on physical aspects. The Gansser work includes a great deal of new information on Bhutan's geology and physiography, and contains many maps, sketches and photographs, including a large geological map of the entire Himalayan Range.

Christoph von Furer-Haimendorf, professor of Asian anthropology at the University of London, has written an excellent account of the Sherpa inhabitants of Nepal.¹⁸ Geographers will find the short chapter « Environment and Economy » (19 pages) of great value. Geologist Toni Hagen and G. O. Dyhrenfurth, along with Erwin Schneider (topographer and cartographer) and von Furer-Haimendorf, have produced an outstanding volume on the physical and cultural aspects of the Mount Everest region,¹⁹ including a large-scale map of the Everest region prepared by Schneider.

An ethno-sociological study of the Newars of Katmandu Valley furthers our knowledge of one of the most well-known groups of people living in Nepal. Having intimate knowledge of these people, the author has collected his materials scrupulously and analysed them skillfully.

Professor B. P. Shreshtha, of Tribhuban University at Katmandu, provides a systematic account of the Nepalese economy.²¹ His approach is that of an economist, but geographers will find much of value in this book. The volume is the result of the author's doctoral thesis on the economy of Nepal, submitted to Bombay University. Beginning with a brief introduction to Nepal's physical environment, the study evaluates material and human resources and analyzes in some detail the problems of agriculture, industry, transportation, public finance and foreign trade. There are numerous misprints in the book, however, and professor Shreshtha has included « a list of glaring errors » at the end !

Ceylon

There are two books on Ceylon, written or revised by Ceylonese geographers. The well-known study by Cook,²² originally published in the 1930s,

¹⁵ KARAN, P. P., *Nepal: A Physical and Cultural Geography*, Lexington, Kentucky, University of Kentucky Press, 1960, 101 pages.

¹⁶ KARAN, P. P., and JENKINS, W. M., Jr., *The Himalayan Kingdoms: Bhutan, Sikkim and Nepal*, Searchlight Series No. 13, Princeton, New Jersey, D. Van Nostrand Co., 1963, 144 pages.

¹⁷ GANSSE, A., *Geology of the Himalayas*, New York, John Wiley & Sons, 1964, 289 pages.

¹⁸ FURER-HAIMENDORF, Christoph von, *The Sherpas of Nepal: Buddhist Highlanders*, Berkeley and Los Angeles, University of California Press, 1964, 198 pages.

¹⁹ HAGEN, Toni, DYRENFURTH, G. O., FURER-HAIMENDORF, C. V., and SCHNEIDER, E., *Mount Everest: Formation, Population and Exploration of the Everest Region*, London, Oxford University Press, 1963, 195 pages.

²⁰ NEPALI, Gopal Singh, *The Newars*, Bombay, United Asia Publications, 1965, 476 pages.

²¹ SHRESHTHA, Badri Prasad, *An Introduction to Nepalese Economy*, Katmandu, Nepal Press, 1962, 264 pages.

²² COOK, Elsie Kathleen, *Ceylon: Its Geography, Its Resources, and Its People*, New (2nd) edition of *A Geography of Ceylon*, revised and brought up to date by K. Kularatnam, Madras, Macmillan, 1953, 360 pages.

has been revised by K. Kularatnam of the University of Ceylon. This revised version is divided into five parts dealing with historical geography, physical geography, economic geography, human geography, and a final summary part describing the natural regions of Ceylon. The book was originally intended for use as a text in schools, but the revised edition contains such a mine of information that it would be valuable to anyone interested in the geographical aspects of Ceylon. It is illustrated with several good clear maps and photographs. The revised and enlarged edition of De Silva's²³ regional study on Ceylon supplements Cook's systematic geography.

One of the most interesting books on Ceylon is a short volume²⁴ by B. H. Farmer, professor of geography at Cambridge University, who is well-known for his writings on Ceylon. Farmer summarizes the ethnic, religious, linguistic and economic cleavages which divide modern Ceylon, the historical differentiation between highland and lowland Singhalese, the influx of the Ceylon Tamils, the rise and decline of the Dry Zone region, and the early importance of Buddhism. The impact of Europeans — Portuguese, Dutch and British — on Ceylon is analyzed. The Roman Catholic element is attributed to the Portuguese, and Protestant Christianity to the Dutch. The lowlands assumed added commercial importance during the Dutch period. Social and political differences were augmented under the British rule, which saw the rise of an English-educated elite, and the introduction of Indian Tamil labor for the estates. The fundamental divisions of Ceylonese society and its political consequences are described in the last chapter of the book, which focuses primarily on the post-independence period.

SYSTEMATIC STUDIES

Land Use and Agriculture

Several studies dealing with land utilization have been published in recent years. Mention should be made of the valuable work by professor Shafi of Aligarh on land utilization in eastern Uttar Pradesh²⁵ which was carried out under the guidance of L. Dudley Stamp. This book is divided into 2 parts. Structure, relief, climate and soils of eastern Uttar Pradesh (comprising the five districts in the Ganga and Gogra interfluvium) are described in Part 1. Twelve villages were selected for type studies and their land use and population analyzed in Part 2. Of the villages studied, four lie on well-drained land, five on ill-drained land, two on the present flood plain (khadar) of the Ganga and Gogra, and one in the black soil region. The concluding chapter summarizes the principal findings and constitutes the most significant research contribution of the volume. Some of Dr. Shafi's findings were used by professor Stamp in a paper published in 1958 (*Measurement of Land Resources in Geographical Review*, Vol. 48, 1958, pp. 1-15). This book is an excellent introduction to land use in the densely settled Ganges plain.

Two monographs published by the East Pakistan Geographical Society at Dacca provide insight into the land use and agricultural problems of East Pakistan.²⁶ Monograph No. 1, *Land Use in Rampal Union*, was directed by

²³ DE SILVA, S. F., *A Regional Geography of Ceylon*, Revised and enlarged edition, Colombo, The Colombo Apothecaries Co., 1954, 301 pages.

²⁴ FARMER, B. H., *Ceylon: A Divided Nation*, London, Oxford University Press, for the Institute of Race Relations, 1963, 74 pages.

²⁵ SHAFI, M., *Land Utilization in Eastern Uttar Pradesh*, Aligarh, Muslim University, 1960, 280 pages.

²⁶ KHAN, F. K., (Editor), *Land Use in Rampal Union*, Monograph No. 1, East Pakistan Geographical Society, Department of Geography, University of Dacca, 1961, 43 pages.

AHMAD, Nafis, and KHAN, F. K., *Land Use in Fayadabad Area*, Monograph No. 2, East Pakistan Geographical Society, Department of Geography, University of Dacca, 1963.

Dr. Nafis Ahmad, assisted by Dr. F. Karim Khan and S. H. H. Naqavi. Dacca geographers have admirably executed this intensive study as part of the work of the World Land Use Survey. The area under study is a compact block of 2,200 acres about 10 miles southeast of Dacca. Important for vegetable growing, the authors point out the highly intensive land use in which several crops follow in succession, depending on such factors as soil texture, flood levels and manuring practices. The principal contribution of the monograph lies in revealing the extremely intensive land use pattern in the Ganges delta.

Monograph No. 2, *Land Use in Fayadabad Area* by Drs. Nafis Ahmad and F. K. Khan was financed by the Ford Foundation. Both monographs are good examples of type studies.

India's prospect for self-sufficiency in food by 1975-76 is examined by Dr. Sinha in *Food in India*.²⁷ Present patterns of food consumption, trends in population growth, prospects and potentialities of agriculture are discussed in detail. Sinha's grossly underestimated population projection for 1975 (538 million), computed before the 1961 census figures were released, is revised in the appendix at the end. A revised population figure of 621 million is predicted for 1975-76 — an increase of 61.7 per cent over 1955-56. Sinha computes that with a « 61.7 per cent increase in population » (page 184), depending on the rate of rise in the national income, « the demand for food will range between 94 and 115 per cent » (page 185). Only under very optimistic assumptions « we can expect a 100 per cent increase in the supply of food from our own resources » explains Dr. Sinha. He concludes that without a radical change in consumption habits and the pattern of agricultural production, « self-sufficiency in food will not be attained ... »

M. S. Randhawa has produced a valuable reference book²⁹ on agriculture and animal husbandry in India, which clearly brings out the diversity of India and its agriculture. This study is divided into three sections. The first, entitled « The Land, » describes the physical setting and geological foundation of India. The second section describes briefly the major economic aspects of the various food crops, oilseeds, fibre crops, sugarcane, tobacco, spices and plantation crops. Tables of production are given for principal products. Maps showing the distribution of crops would have improved the value of the discussion. The third section deals with farm animals, poultry and fish. There is a useful bibliography at the end. Mr. Randhawa has compiled much information concerning Indian agriculture within the range of a single volume.

Dr. Sengupta's book³⁰ on the jute belt represents the first full-scale geographical study of a single crop by an Indian geographer. The physical setting in which jute is cultivated is described in over one-half of the book; the remainder deals with an analysis of production cost, price and profit, and the « jute belt farm. » With admirable maps and well-written text, *The Indian Jute Belt* is a valuable contribution to Indian agricultural geography. A few case studies may have improved the volume.

Rice, the most important food crop of India, is the subject of a comprehensive study by Ghose, Ghatge and Subrahmanyam.³¹ This volume is divided into three parts. Part 1 deals with the agricultural aspects of rice and

²⁷ SINHA, R. P., *Food in India : An Analysis of the Prospects for Self-Sufficiency by 1975-76*, Bombay, Oxford University Press, 1961, 200 pages.

²⁸ DANTWALA, Mohanlal, *India's Food Problem*, New York, Asia Publishing House, 1961.

²⁹ RANDHAWA, M. S., *Agriculture and Animal Husbandry in India*, New Delhi, Indian Council of Agricultural Research, 1962, 342 pages.

³⁰ SENGUPTA, P., *The Indian Jute Belt*, Calcutta, Orient Longman's, 1959, 152 pages.

³¹ GHOSE, M. R. L., GHATGE, M. B., and SUBRAHMANYAM, V., *Rice in India*, New Delhi, Indian Council of Agricultural Research, 1960, 474 pages.

discusses the area of cultivation, production, irrigation, drainage and water requirements, diseases and pests, use of fertilizers and methods of cultivation. Several maps illustrate various points made in the text. Part 2 examines the marketing of rice and discusses supply, demand, prices, classification and grading, handling and transportation, manufacturing and distribution of rice products. Part 3 is concerned with the technology of rice processing in India such as par-boiling, rice milling, and the utilization of by-products of rice milling. It also analyses the food value of rice and rice diets and their nutritional improvement. At the end of each part is a list of useful references.

The need for an authoritative volume on the important aspects of production, processing and marketing of this most valuable food grain in India cannot be overemphasized. The authors of *Rice in India*, assisted by Research Officers of the Central Rice Research Institute, deserve credit for producing this valuable reference publication.

Geographical aspects of agriculture in West Bengal are analyzed in a study by S. N. Mukherjea.³² Ten chapters cover a wide variety of subjects — physical aspects, weather conditions, irrigation and drainage, soil erosion, land utilization, crops and livestock. The brief text has been supplemented by a number of tables (in the appendix) giving acreage, production and yield of various crops in different districts. Illustrated by six maps showing different aspects of the geography of West Bengal, this short volume will be of interest to those seeking a broad knowledge of West Bengal's agriculture.

MINING, INDUSTRIAL AND TRANSPORT GEOGRAPHY

Brown and Dey provide a comprehensive study on mineral resources of postpartition India and Pakistan.³³ Each mineral deposit is described in some detail, together with a history of its commercial exploitation and trade, general world supply, industrial use in India, and future prospects. The new edition includes a section on water and soils as well. Since there are few readily available sources of information on minerals in India and Pakistan, those interested in the mining industry of the Indian subcontinent should find this book most useful.

Another valuable contribution to the literature on minerals and mining industry in India is made by A. K. Madan.³⁴ India's mineral resources are carefully assessed and the nation's economic potentialities in the mining industry are examined. The book, divided into three major parts, deals with the growth of the mining industry in general, a survey of minerals and mineral products, and problems of the mining industry. The presence of a locational map showing mineral distributions would have increased the value of this publication.

Professor Chaudhuri gives a short but critical outline of India's major industries.³⁵ This book is divided into 7 chapters. The first presents a broad outline of the industrial policy of India, as well as an account of the evolution of Indian industries. Chapter 2 discusses heavy industries. Locational aspects of ship building, automobile and aircraft industries are analysed in chapter 3, chemical industries in chapter 4, textile industries in chapter 5, sugar and tea

³² MUKHERJEA, S. N., *A Brief Agricultural Geography of West Bengal*, Calcutta, Directorate of Agriculture, West Bengal, 1956, 163 pages.

³³ BROWN, J. Coggin and DEY, A. K., *India's Mineral Wealth*, Third Edition, Bombay, Oxford University Press, 1955, 761 pages.

³⁴ MADAN, A. K., *Economic Survey of Minerals in India*, New Delhi, Economic & Industrial Publications, 1959, 228 pages.

³⁵ CHAUDHURI, M. R., *Indian Industries: Development and Location — An Economic Geographic Appraisal*, Calcutta, Oxford Book and Stationery Co., 1962, 138 pages.

in chapter 6, and cottage and small-scale industries in chapter 7. Although the book is a useful source of information, the analysis is not comprehensive and cartographic work is poor.

Dr. Jagdish Singh, of Banaras Hindu University, provides the first comprehensive transport geography of one section of eastern India.³⁶ Singh's study is divided into 3 parts. Part 1 deals with the geographical background of South Bihar — all areas of Bihar State lying south of the Ganges River. Part 2 analyzes the various aspects of road, river and rail transportation. Part 3 points out transport problems and gives suggestions for improving the transport network. The most valuable and original section of the book is that portion dealing with the nature and flow of traffic.

Figure 7, showing the physiography of South Bihar (page 11), has been purposely placed upside down, contrary to the usual presentation of other maps in the book. This makes a comparison with the physiographic region map (Figure 6) on the opposite page (page 10) difficult. The maps in general are poorly drafted and the photographs are unsatisfactorily reproduced. The large number of maps are based on existing published works. Further field studies may have resulted in more refined regional boundaries for the various economic regions of South Bihar.

There are several misprints in Dr. Singh's book. For instance, on page 95, the name G. Etzel Percy is printed as Etzel, P. G., in footnote 4. The same error is repeated on page 96. More rigorous editing would have certainly improved this book.

POPULATION AND SETTLEMENT GEOGRAPHY

Every ten years since 1871 a census has been taken in India and Pakistan. The results of each census have been published in a series of volumes. In India substantial data of value to geographers are contained in the various census publications, particularly for the 1951 and 1961 Census. Kingsley Davis has analyzed the vast amount of demographic data in his substantive book *The Population of India and Pakistan*.³⁷ Using 1951 census figures, Davis brings his volume up to the partition of the Indian Empire. It therefore serves as an excellent reference for future detailed studies of population in India and Pakistan.

Papers dealing with the future growth of India's population, employment aspects of population growth, population policies, and problems of demographic research in India are included in a volume edited by Agarwala.³⁸ The population projection goes to the period ending in 1981 when India will have completed its sixth Five-Year Plan. The difficulty confronting accurate population projections is clearly brought out by the author. Even the estimated figure for the 1961 population, presented in discussions in 1959, fell short of the actual figure by 13 to 21 million! The major weakness of the essays in this volume lies in the author's failure to present regional discussions of the significant aspects of India's population. In such a large country, significant regional differences exist in absolute and percentage growth of population, mortality and fertility rates. Discussions based on total rates for India conceal vital regional differences which are important for purposes of economic planning. Indian demographers must give a regional orientation to their population research.

³⁶ SINGH, Jagdish, *Transport Geography of South Bihar*, Varanasi, Banaras Hindu University Press, 1964, 271 pages.

³⁷ DAVIS, Kingsley, *The Population of India and Pakistan*, Princeton, Princeton University Press, 1951, 263 pages.

³⁸ AGARWALA, S. N. (Editor), *India's Population: Some Problems in Perspective Planning*, Bombay, Asia Publishing House, 1960, 208 pages.

A comprehensive survey of India's population problem has been made by Dr. C. B. Mamoria.³⁹ His study is given in twelve chapters with a concluding section on population policy. The first 58 pages are devoted to a description of India's «geographical environment.» Numbers, density, distributional patterns, including factors affecting spatial distributions, are examined in the following 50 pages. The growth of population, described in the third chapter, brings the reader up to the 1951 census. The birth rate, death rate, rural-urban distribution of population, qualitative aspects of the population (distribution of literacy and diseases) are each dealt with in separate chapters. Land use and pressure of population on the land are analyzed in chapters 9 and 10. The improvement of agriculture, reclamation of wastelands and planned migration from heavily populated to sparsely populated areas are solutions suggested by Mamoria to ease the problem of over-population. Problems arising out of the transfer of population following the partition of India are treated in chapter 12. Although this book is illustrated with 64 maps and sketches, the quality of drafting and reproduction leaves much to be desired. Some of the materials will be of interest to the professional geographer despite the fact that the book is aimed more directly at the Indian university student.

A recent publication of the Anthropological Survey of India, describing the distributional pattern of certain items of material culture,⁴⁰ will be of interest to geographers. Variations in the form of villages, types of cottages, staple diet, plow and husking implements, bullock carts and dress in different parts of India are described and illustrated by maps. This study is based on a survey of 311 districts (out of 322 in the whole of India) where 413 villages were investigated by members of the Anthropological Survey of India. Future volumes, under preparation now, will deal with other items of material culture such as agricultural and animal husbandry, pottery and markets. The diversity of India is well-illustrated in this volume.

India has gone through a period of rapid urbanization during the last two decades. Populations of large cities have increased phenomenally. Housing and civic services have lagged far behind, and overcrowding has led to slums and unwholesome living conditions for a substantial number of urban dwellers. In 1954 the Research Programmes Committee of the Indian Planning Commission sponsored socio-economic surveys in several cities through university departments and research organizations all over India. Several of these urban surveys have already been published in separate volumes.⁴¹

The principal findings of nine urban survey reports (on Baroda, Gorakhpur, Hubli, Hyderabad-Secunderabad, Jamshedpur, Kanpur, Lucknow, Poona

³⁹ MAMORIA, C. B., *India's Population Problem*, Allahabad, Kitab Mahal Private, Ltd., 1961, 427 pages.

⁴⁰ *Peasant Life in India: A Study in Indian Unity and Diversity*, Calcutta, Anthropological Survey of India, 1962, 104 pages.

⁴¹ MALKANI, H. C., *A Socio-Economic Survey of Baroda City*, Baroda, M. S. University of Baroda, 1957.

DHEKNEY, B. R., *Hubli City: A Study in Urban Economic Life*, Dharwar, Karnatak University, Mysore, 1959.

IYENGAR, S. Kesava, *A Socio-Economic Survey of Hyderabad-Secunderabad City Area*, Hyderabad, Indian Institute of Economics, 1957.

MISRA, B. R., *Socio-Economic Survey of Jamshedpur City*, Patna, Patna University, 1959.

MAJUMDAR, D. N., *Social Contours of an Industrial City, Social Survey of Kanpur*, Bombay, Asia Publishing House, 1960.

SOVANI, N. V., APTE, D. P., and PENDSE, R. G., *Poona: A Resurvey*, Poona, Gokhale Institute of Politics and Economics, 1956.

SEN, S. N., *City of Calcutta: A Socio-Economic Survey*, Calcutta, Bookland Private, Ltd., 1960.

and Surat) have been gathered in one volume by Dr. J. F. Bulsara.⁴² His book contains a wealth of data on the demographic aspects of urban development, the problem of rural immigration into cities, the literacy and other socio-cultural equipment of the migrant and resident inhabitants, their occupations, incomes, unemployment, underemployment, housing conditions, and the adequacy or otherwise of urban amenities. A chapter on fertility surveys in Kanpur, Surat, Gorakhpur, Lucknow and Hyderabad furnishes very interesting and informative details on the women's attitudes toward family planning, spacing of births, ideal size of family, and their knowledge and use of contraceptives.

The factual data is presented intact (as given in the nine city surveys) in the first descriptive part of the book. The collator's analysis is given in the second section. Part 3 contains a summary of the first two parts and includes an outline of topics for further research. Among these are subjects such as pilot studies of rural migration, inter-state migration, and towns as centers of regional development. Geographers interested in urban problems of India will find Bulsara's study quite valuable.

Twenty-three papers presented by social scientists and government officials (both Indian and American) at a seminar on urbanization in India at Berkeley, California, in 1960, have been published in book form.⁴³ Essays have been grouped into five sections. The first includes mainly demographic studies that describe urbanization and migration. The second section deals with the Indian city as it exists today. Geographers will find the section on morphology of Indian cities by John E. Brush particularly valuable. The third section concerns the crucial issues related to the impact of industrialization upon the city size and growth rates and to the economics of industrial location. The fourth section discusses the responsibility of the government for the situations described and predicted in earlier chapters. The summary survey of literature on Indian urban studies by Hoselitz in the fifth section makes the book particularly valuable.

R. L. Singh's volume on Banaras (Varanasi), and Janaki and Sayed's book of Padra Town represent the first comprehensive geographical analysis of a large Indian city⁴⁴ and one of India's smaller agro-commercial towns.⁴⁵ Using analytical concepts of urban geography, Singh discusses various aspects of the city, including functional zones and the limits and characteristics of Banaras' service area or umland. The analysis of the city's service area and the role of smaller towns within Banaras' umland as subsidiary service centers is the most valuable part of the book. The study of Padra, a town with 15,000 inhabitants located some 10 miles from Baroda, is based on intensive field work. The significant role of transportation in analyzing the urban sphere or field of Padra is clearly revealed. The analysis of Padra's position in the urban hierarchy is weak, but the authors are to be commended for their efforts to find a suitable methodology for Indian conditions.

Qazi Ahmad has analyzed India's urban system and grouping characteristics of Indian cities,⁴⁶ using sixty-two variables on the IBM computing

⁴² BULSARA, J. F., *Problems of Rapid Urbanisation in India*, Bombay, Popular Prakashan, 1964, 215 pages.

⁴³ TURNER, Roy (Editor), *India's Urban Future*, Berkeley and Los Angeles, University of California Press, 1962, 470 pages.

⁴⁴ AHMAD, Qazi, *Indian Cities: Characteristics and Correlates*, Department of Geography, University of Chicago Research Paper No. 102. Chicago, University of Chicago Press, 1965, 184 pages.

⁴⁵ RAO, V. L. S. Prakasa, *Towns of Mysore State*, Indian Statistical Institute Series No. 22, New York, Asia Publishing House; and Calcutta, Statistical Publishing Society, 1964, 120 pages.

⁴⁶ SINGH, R. L., *Banaras: A Study in Urban Geography*, Banaras Nand Kishore & Bros., 1955, 184 pages.

system. His results are interesting in view of the large number of variables assembled for Indian cities and studied together. An introductory chapter describing the general objective and background of the study is followed by a discussion of the various multivariate statistical procedures used in the study. Results of the grouping analysis are presented in Chapter 3. Dr. Ahmad differentiates five major statistical groups of Indian cities which also show a marked regionalism : Northern Cities, Southern Cities, Cities with a generally central location, Calcutta suburbs, and a non-regional group of national metropolies — Bombay, Calcutta and Delhi. This reviewer finds some aspects of Ahmad's presentation unsatisfactory, but there can be no question of the scholarly and scientific spirit of his study. Precise quantitative knowledge, which is at best half of urban geography, is given here. Meaningful understanding and imaginative interpretation, which constitutes the other half, is lacking in this statistical enquiry.

The results of an urban survey of Mysore State, directed by V. L. S. Prakasa Rao and sponsored by the Regional Survey Unit of the Indian Statistical Institute, is available in a concise volume.⁴⁷ This survey was designed to yield knowledge of urbanism and urban trends in different parts of Mysore State for regional planning purposes. It attempts to delimit regions of poor urban facilities and amenities within Mysore State and provides the basic information required in formulating regional plans. With the aid of maps, Rao clearly brings out the disparities in urban concentration and tries to assess the potentialities of urban centers in integrated regional development programs. Although written primarily for planners, urban geographers will find this study a great help in providing insight into the geography of towns in South India.

Various aspects of the urban geography of Allahabad are analyzed in a study by Ujagir Singh of Banaras Hindu University.⁴⁸ Singh's book is based on his Ph.D. thesis at London University. Most of the materials in the volume have been published earlier in article form in the *National Geographical Journal of India*. The book is organized into ten chapters. The first two chapters deal with the geographical background and evolution of Allahabad. Growth and demographic structure of the city are discussed in chapter 3, which is followed by well-written chapters on the functional regions and cultural zones of the city. Geographical significance of essential services in Allahabad, the growth of transport and communications, and the industrial and commercial landscape are clearly analyzed in following chapters. Perhaps the most significant research contribution of the book lies in chapter 9 where Singh attempts to delimit the unland of the city based on a number of indices. Several original map compositions illustrate this volume.

Significant aspects of Dacca's urban development have been analyzed in a joint study by a geographer and statistician.⁴⁹ The pre-partition growth of Dacca, post-partition growth, population projection by 1981, areal growth, and future urban development are analyzed. This study is illustrated by excellent maps showing the growth of the city between 1600 and 1947, the possible extensions of the city by 1981, and the significant role of floods in controlling the expansion of the city which has taken place on lands above the normal flood level.

⁴⁷ JANAKI, V. A., and SAYED, Z. A., *The Geography of Padra Town*, University Geographical Series No. 1, Baroda, M. S. University of Baroda Press, 1962, 139 pages.

⁴⁸ SINGH, Ujagir, *Allahabad: A Story in Urban Geography*, Varanasi, National Geographical Society of India, 1961, 183 pages.

⁴⁹ ATIQULLAH, M., and KHAN, F. Karim, *Growth of Dacca City: Population and Area*, Social Science Research Project, Department of Statistics, Dacca, University of Dacca, 1965, 42 pages.

REGIONAL STUDIES

Dr. Kayastha's volume on the Himalayan Beas Basin⁵⁰ is a pioneer regional study of one part of the Himalayas by an Indian geographer. The study is divided into 3 parts. The first, dealing with the habitat, provides a detailed description of the geographical setting of the Beas Basin, which lies in the Himalayan districts of Kangra, Mandi and Chamba, located in the states of Punjab and Himachal Pradesh. A comprehensive study of the economy of the region is made in Part 2, which contains five chapters analyzing agricultural economy, agricultural regions, industrial economy, transport, trade and commerce, and conservation of natural resources. The concluding Part 3 deals with the society and its relationship with habitat and economy. Four chapters in this part describe the population, settlement pattern and social structure, and contains type studies of the Ghirths of Kangra Valley and Gaddis of the Dhauladhar area. The volume is illustrated by several maps of the region. Most of the photographic illustrations are not reproduced well.

Dr. Kayastha's book contains a wealth of information about a little-known area of the Himalayas. His approach is methodologically sound, but the chief weakness of the volume lies in the author's failure to bring out into full focus the various geographical features which combine to give the Himalayan Beas Basin its unique geographic personality as a distinctive region.

The narrow, elongated Tarai plain lying south of the Himalayan foothills in the state of Uttar Pradesh is the subject of Dr. Singh's study.⁵¹ Divided into four parts, it deals with physical setting, habitat, economy and society. Three chapters on the physical setting adequately describe surface features, climate soils, flora and fauna. Dr. Singh points out the limitations as well as potentialities of the land. The four chapters of Part 2 deal with population, house types, rural and urban settlements. Part 3 on economy analyzes the pattern of agriculture, industries, transportation and trade. The last part has two chapters: one describes the social economy of the Tharus (a Mongoloid tribe) as a sample study; the concluding chapter summarizes the principal findings of the book.

Dr. Singh attributes « neglect and indifference of the British revenue officers » as one of the principal factors in the slow colonization of the Tarai in the XIXth century. Though the population of the Tarai has steadily increased since 1921, Dr. Singh's study indicates that « Western Tarai holds out further possibilities for colonization and resettlement. » The volume contains 66 well-executed maps and diagrams which clearly show the varied geographical features of the U. P. Tarai. In addition, there are some 39 small photographs illustrating the land and life. Dr. Singh's book is a welcome contribution to our knowledge of the Tarai region, and a valuable addition to the regional geographic literature on India.

A regional survey of Mysore State,⁵² initiated by the Indian Statistical Institute under the auspices of the Planning Commission of India, has resulted in two volumes. Vol. 1 is an *Atlas of Mysore State* with over 100 maps. Vol. 2 is a regional synthesis based on the maps in Vol. 1. An attempt has been made to identify regions having similar resources and possibilities for economic develop-

⁵⁰ KAYASTHA, S. L., *The Himalayan Beas Basin: A Study in Habitat, Economy and Society*, Varanasi, Banaras Hindu University, 1964, 346 pages.

⁵¹ SINGH, Lekh Raj, *The Tarai Region of Uttar Pradesh: A Study in Human Geography*, Allahabad, Ram Narain Lal Beni Plasad, 1965, 145 pages.

⁵² LEARMONTH, A. T. A., *Mysore State, Vol. 1: An Atlas of Resources* (with L. S. Bhat); *Vol. 2: A Regional Synthesis*, Indian Statistical Series Nos. 13 and 16, New York, Asia Publishing House; and Calcutta, Statistical Publishing Society, 1961 and 1962, 204 and 165 pages.

ment. The two volumes point out the useful role which Indian geography can play in regional analysis, which provides the vital base for planning. The Mysore Study serves as a model for geographical analysis and sample survey techniques needed for developmental purposes. The study was carried out under the direction of professor Learmonth, whose services were made available to India under Colombo Plan aid by the United Kingdom.

Professor Enayat Ahmad, one of India's most competent geographers, has produced an excellent geographical study of Bihar State,⁵³ one of India's sixteen constituent states. The author, professor of geography at Ranchi University, notes that Bihar is the only State in the Indian Union which includes both the North Indian Plain and the Peninsular Plateau, and is therefore geographically representative of the two major physical divisions of the Indian subcontinent. Dr. Ahmad's study is divided into 5 parts. Part 1, the physical background, discusses geological origin and evolution, physiography, drainage, climate, soils and vegetation of the state. The value of the study would have been enhanced if the author had presented his own ideas on the physiographic evolution of Chotanagpur along with the somewhat different views of eminent scholars such as professors S. P. Chatterjee, S. C. Chatterji and R. P. Singh. Part 2 deals adequately with the land, water and mineral resources of Bihar. Part 3 analyzes the economy of the State. This section contains a full discussion of agriculture, industries, trade and communications.

Part 4, dealing with aspects of population and settlement, is the most interesting and valuable section of the volume. Dr. Ahmad discusses growth and distribution of population in Bihar, analyzes the distribution of towns, their functional structure, morphological character, and the hierarchy of urban settlements. Types of rural settlement, rural houses and population migration are described. Part 5 discusses the 15 geographical regions of Bihar. A concluding chapter analyzes the prospects of Bihar State from a geographer's viewpoint.

There are 14 clear, effective maps illustrating this volume, but they are uneven in coverage of the main topics. For instance, maps needed to illustrate population distribution and rural settlement types are conspicuously absent. Bibliographic references are incomplete, omitting many significant geographical publications on Bihar such as P. Dayal's *Bihar in Maps* (Patna, 1953). Despite these defects, *Bihar: A Physical, Economic and Regional Geography* is a valuable contribution to our geographic knowledge of one of India's most populous and geographically diverse states.

To professor Nafis Ahmad, of Dacca University, goes the credit for writing the first comprehensive volume on the geography of East Pakistan.⁵⁴ Professor Ahmad's book is divided into three main parts containing eleven chapters along with an introductory section. Part 1 consists of two chapters describing the physical aspects of East Pakistan with a full discussion of physiographic and climatic features. Part 2 deals with the «economic geography of the past,» in which Ahmad describes the agriculture, industry, trade and transportation from early times to the XIXth century.

Part 3 analyzes the present-day economic geography of the area. This section comprises nearly two-thirds of the volume. Economic aspects of agriculture and forest wealth, including land utilization, distribution of crops, changes in crop pattern and related subjects, are fully described. Development of industries, transport and the pattern of trade in East Pakistan are discussed,

⁵³ AHMAD, Enayat, *Bihar: A Physical, Economic and Regional Geography*, Ranchi University, 1965, 420 pages.

⁵⁴ AHMAD, Nafis, *An Economic Geography of East Pakistan*, London, Oxford University Press, 1958, 361 pages.

as are the population distribution and patterns of settlement. The concluding chapter contains suggestions for the future economic development of East Pakistan in the light of its developed and potential resources. The book is an excellent example of the scholarly work being done in East Pakistan. With good, clear maps and a well-written text, Ahmad has succeeded in giving a vivid geographical picture of East Pakistan.

Haroun Rashid, a former geographer at the University of Dacca, currently a member of the Pakistan Civil Service, has written a useful study of East Pakistan.⁵⁵ The fifteen chapters of this book cover the varied aspects of the geography of East Pakistan. The physiography and physiographic regions of East Pakistan are dealt with at great length. The chapters on land utilization, agriculture, fisheries and agricultural regions comprise nearly one-third of the book. Population and demographic aspects are described in detail. One chapter is devoted to the aspects of development planning and the role of geographical research plays in planning in East Pakistan. The chief weakness of this book is the lack of analysis of geographical facts, which are presented in encyclopædic fashion. Cartography is poor on most of the 51 sketch maps and diagrams.

Professor Wikkramatileke, of the University of Singapore (formerly at the University of Ceylon), has prepared an excellent study of Southeast Ceylon.⁵⁶ This book, based on the author's doctoral thesis at the University of London, is concerned with the analysis of trends and problems of agricultural settlement in Southeast Ceylon. Wikkramatileke discusses at length the physical setting, historical background and present-day settlement and agriculture in the south-east quadrant of Ceylon. A most valuable section is chapter 5, dealing with problems of agricultural settlement and development. Here the author points out the problems of increasing productivity in food crops and the potentialities for increasing acreage under food crops. Illustrated with over 20 maps and more than 30 carefully selected photographs, this book is an important contribution to our knowledge of Southeast Ceylon.

MAPS AND ATLASES

The most outstanding atlas published in South Asia is the preliminary Hindi edition of the *National Atlas of India*.⁵⁷ It consists of 26 color plates with a variety of inset maps showing the physical, economic and cultural aspects of India. Most of the maps are on a scale of 1:5,000,000 on a full page measuring 26×17". The Atlas contains a wealth of information about India. The main edition of the *National Atlas of India*, which will contain as many as 300 plates, is being prepared under the able guidance of professor S. P. Chatterjee, of Calcutta University, the director of the National Atlas Organization of India. Professor Chatterjee is also the current president of the International Geographical Union. Several population sheets of the main edition have recently been published. In physical lay-out, technical execution and material content, the Atlas compares favorably with similar publications in Europe and North America.

⁵⁵ RASHID, Haroun, *East Pakistan: A Systematic Regional Geography and Its Development Planning Aspects*, Lahore, Sheikh Ghulam Ali & Sons, 1965, 387 pages.

⁵⁶ WIKKRAMATILEKE, Rudolph, *Southeast Ceylon: Trends and Problems in Agricultural Settlement*, Department of Geography, University of Chicago, Research Paper No. 83, Chicago, University of Chicago, 1963, 163 pages.

⁵⁷ CHATTERJEE, S. P. (Editor), *National Atlas of India*, Calcutta and Dehra Dun, Government of India, Ministry of Education and Scientific Research, 1957.

The Regional Survey Unit of the Indian Statistical Institute has prepared the *Atlas of Resources of Mysore State*⁵⁸ under the guidance of professor A. T. A. Learmonth, formerly of Liverpool University, now at the Australian National University, Canberra. The National Council of Applied Economic Research has published *The Economic Atlas of Madras State*⁵⁹ containing 55 maps showing the distribution of natural resources, their potentials, and present utilization. Most of the maps are original compilations and represent an important contribution to our knowledge of Madras State.

During the past decade several specialized atlases dealing with specific commodities have been published in India. Among these one of the most interesting is *The Coconut Atlas of India*.⁶⁰ India is the world's second largest producer of coconuts, and the atlas presents in a vivid and interesting manner information concerning the production of coconuts, copra and coconut oil. There are over 34 maps showing areal distribution, production, trade of coconut and copra in India. Although the maps could be improved upon, in general they are clear with good cartography. Statistical data is given in tables relating to the acreage under coconut and other aspects of the copra industry. This atlas would be of great value to those interested in the distributional pattern of the coconut industry in India.

Political geographers will find useful material on the boundary problems between India and China in the *Atlas of the Northern Frontier of India*.⁶¹ This Atlas contains a series of detailed maps of disputed border areas. It also contains photographic reproductions of two maps showing the boundary agreed upon between Tibet and India at the Simla Conference (1913-14), signed by the Tibetan Plenipotentiary.

Geographers interested in the history of mapping and cartography in India will discover a wealth of information in five volumes of the *Historical Records of the Survey of India*.⁶² These volumes have been prepared by Colonel Phillimore of the Survey of India. This reviewer was able to examine only one volume in the series, and found it fully documented and illustrated by reproductions of contemporary maps and charts.

* * *

The foregoing brief and far from complete review of the contributions to South Asian geography permits a few conclusions on the status of geography in the Indian subcontinent. To begin with, geographic writing and research has expanded significantly. Before 1950 the number of practicing geographers was small and publications representing current research were few. Since 1950 a notable expansion has taken place both in the number of geographers and in their activities. Geography now plays an important part in the academic life and in economic planning in India. The increasing status of geography in this part of the world is reflected in the fact that for the first time the International Geographical Congress will meet in India in 1968.

⁵⁸ See footnote 52.

⁵⁹ GUPTA, P. Sen, *Economic Atlas of Madras State*, New Delhi, National Council of Applied Economic Research, 1962, 138 pages.

⁶⁰ *The Coconut Atlas of India*, Ernakulam, Indian Central Coconut Committee, 1959, 97 pages.

⁶¹ *Atlas of the Northern Frontier of India*, New Delhi, Ministry of External Affairs, 1960.

⁶² *Historical Record of the Survey of India, Vol. 4, 1830 to 1842: George Everest*, Collected and compiled by Colonel R. H. Phillimore, Dehra Dun: Survey of India, 1958, 493 pages.

However, the rapid growth of the subject and rising flow of geographical publications have not been matched by uniformly high quality of scholarship. Not surprisingly, there is variety in approach, but still South Asian geographers continue to fall into what Professor Spate has rightly termed « the gazetteer trap. »⁶³ More emphasis on field study, interpretation and analysis of facts, and less on mere compilation of information are needed in research and writing. Some of the books reviewed above show mature scholarship and indicate happy augury for the future of South Asian geography.

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⁶³ SPATE, O. H. K., *Taking Stock in India and Pakistan : A Review*, in *Geographical Review*, Vol. 40, 1950, p. 282.