

# **Economic and Commercial Geography of India**

**Third Revised Edition**

**T C Sharma • O Coutinho**

# CONTENTS

IX—XVI

## INTRODUCTION

India as a Geographical Unit; Administrative Divisions; Physical Contrasts: Rich Endowment but Poor Development; Strategic Significance

1—13

## 1. PHYSIOGRAPHY

The Northern Mountains—The Himalayas, The Trans-Himalayas, Drainage System of the Himalayas, Advantages from the Himalayas, The Purvachal (The Eastern Hills); The Great Plains—The Punjab-Haryana Plains, The Rajasthan Plains, The Ganga Plains, The Brahmaputra Valley; The Peninsular Plateaus—The Aravalli Range, The Central Plateaus, The Vindhya Range, The Satpura Range, The Eastern Plateaus, The Kathiawar and Kutch Peninsulas, The Sahyadris (Western Ghats), The Deccan Plateau, The Eastern Ghats; The Coast and Islands—The East Coast, The West Coast, The Islands

14—21

## 2. DRAINAGE

Major River Systems and their Usability—The Indus System, The Ganga System, The Brahmaputra System, The Narmada System, The Tapti System, The Sabarmati System, The Mahanadi System, The Brahmani, Baitarni and Subarnarekha Systems, The Godavari System, The Krishna System, The Cauvery System, West-Flowing Rivers of the Sahyadris; Contrast: Himalayan and Peninsular Rivers

22—28

## 3. GEOLOGY

The Dharwar System, The Archaean System—Gneisses and Schists, The Cuddapah System, The Vindhyan System, The Paleozoic Group: Cambrian to Carboniferous, The Gondwana System, The Upper Carboniferous and Permian Systems, The Triassic System, The Jurassic System, The Cretaceous System, The Deccan Trap, The Tertiary System, The Eocene System, The Oligocene and Miocene Systems, The Siwalik System—Middle Miocene to Lower Pleistocene, The Pleistocene and Recent Formations

29—42

## 4. CLIMATE

Factors Affecting the Indian Climate—Latitudes, The Monsoon Winds, Relief; The Indian Weather—The Hot-Dry Weather, The Hot-Wet Weather, The Retreating Monsoon Weather, The Cool-Dry Weather; Significance of Monsoon Rains in India's Economy, Droughts, Floods; Climatic Regions—Tropical Rain Forest(Am), Tropical Savanna(Aw), Tropical Semi-Arid Steppe(Bs), Tropical

and Sub-Tropical Steppe(BSh), Tropical Desert(BWh), Humid Sub-Tropical with Dry Winters(CWa), Mountain Climate

## 5. NATURAL VEGETATION

43—51

Vegetation Classification—Moist Tropical Types, Dry Tropical Types, Montane Sub-Tropical and Temperate Types, Montane Types (Himalayan), Alpine Forests; Forests and Forest Products—Forest Area, Statewise Distribution, Forest Products, Forest Development

## 6. SOILS

52—59

Alluvial Soils, Black Cotton Soils, Red Soils, Laterite and Lateritic Soils, Forest Soils, Arid and Desert Soils, Saline and Alkali Soils, Peaty and other Organic Soils; Soil Erosion—Accelerated Soil Erosion; Soil Conservation—Soil Conservation Through the Plans

## 7. IRRIGATION

60-68

Water Potential, Growth and Utilization of Irrigation Potential; Sources of Irrigation—Tanks, Wells, Canals, Other Sources; Irrigated Area—Statewise Distribution

## 8. MAJOR IRRIGATION AND POWER PROJECTS

69-78

Nagarjunasagar Multipurpose Project, Pochampad Irrigation Project, Lower Sileru Hydro-electric Project, Kothagudem Thermal Power Station, Kosi Multipurpose Project, Gandak Irrigation Project, Dhuvaran Thermal Power Station, Sabarigiri (Pamba-Kakki) Hydro-electric Project, Iddiki Hydro-electric Project, Chambal Valley Multipurpose Project, Tawa Irrigation Project, Korba Thermal Power Station, Satpura Thermal Power Station, Koyna Hydro-electric Project, Nagpur Thermal Power Station, Tungabhadra Multipurpose Project, Malaprabha Irrigation Project, Ghataprabha, Irrigation Project; Kalinadi Hydro-electric Project, Upper Krishna Irrigation Project (Stage I), Sharavati Hydro-electric Project, Hirakud Multipurpose Project, Mahanadi Delta Irrigation Project, Talcher Thermal Power Station, Bhakra Nangal Multipurpose Project, Rajasthan Canal Project, Kundah Hydro-electric Project, Neyveli Thermal Power Station, Ramganga Multipurpose Project, Matatilla Multipurpose Project, Rihand Hydro-electric Scheme, Obra Thermal Power Station, Damodar Valley Multipurpose Project

## 9. LAND UTILIZATION

79—85

Net Sown Area, Forests, Land not Available for Agriculture, Fallow Lands, Cultivable Waste, Permanent Pastures and Grazing Lands, Miscellaneous Tree Crops and Groves; Types of Farming—Shifting Cultivation, Sedentary Peasant Agriculture, Capitalist Farming

10. FOOD GRAINS 86-110
- Rice—Conditions of Growth, Cultivation, Yield, Area and Production, Trade;  
Wheat—Conditions of Growth, Cultivation, Yield, Area and Production Trade;  
Jowar—Conditions of Growth, Cultivation, Yield, Area and Production, Trade;  
Bajra—Conditions of Growth, Cultivation, and Yield, Area and Production,  
Trade; Maize—Conditions of Growth, Cultivation, Yield, Area and Production,  
Trade; Barley—Conditions of Growth, Cultivation and Yield, Area and  
Production, Trade; Ragi—Conditions of Growth, Cultivation, Yield, Area and  
Production; Pulses—Gram, Tur; Other Pulses
11. CASH CROPS 111—129
- Sugarcane—Conditions of Growth, Cultivation, Yield, Area and Production;  
Cotton—Conditions of Growth, Yield, Area and Production, Trade; Jute—  
Conditions of Growth, Cultivation, Yield, Area and Production; Tobacco—  
Conditions of Growth, Cultivation, Curing and Fermentation, Yield, Area and  
Production, Exports; Oilseeds—Groundnut, Castorseed, Sesamum, Rapeseed  
and Mustard, Linseed
12. PLANTATION AND GARDEN CROPS 130—149
- Tea—Conditions of Growth, Cultivation, Varieties and Yield, Plucking and  
Processing, Area and Production, Consumption, Exports; Coffee—Conditions  
of Growth, Yield, Plucking and Processing, Area and Production, Domestic  
Consumption, Exports; Spices—Pepper, Cardamom, Chillies, Ginger, Tur-  
meric; Coconut—Conditions of Growth, Cultivation, Yield, Preparation of  
Copra and Coir, Area and Production, Arecanut—Conditions of Growth,  
Cultivation, Curing and Processing, Area and Production; Friuts—Mango,  
Banana, Orange, Grape, Apple, Cashew, Rubber—Conditions of growth,  
Cultivation, Tapping and Yield, Processing, Area and Production
13. PROBLEMS OF AGRICULTURE 150—157
- Irrigation, Land Holdings, Manures and Fertilisers, Seeds, Implements and  
Machinery, Plant Protection, Intensive Agricultural District Programme  
(IADP), Agricultural Marketing, Land Reforms, Agricultural Credit; Food  
Problem
14. ANIMAL RESOURCES 158—174
- Livestock; Cattle—Distribution, Development Programmes; Buffaloes;  
Sheep—Distribution; Goats; Pigs; Horses and Ponies; Donkeys and Mules;  
Camels; Livestock Products—Milk and Milk Products, Dairying, Meat, Hides  
and Skins, Wool; Sericulture—Mulberry Cultivation, Silk-worm Rearing;  
Fisheries—Marine Fisheries, Inland Fisheries, Distribution, Preservation and  
Processing, Consumption, Exports

15. SURVEY OF MINERAL RESOURCES 175-177  
 Distribution of Mineral Resources, Mineral Production, Foreign Trade
16. METALLIC MINERALS: FERROUS GROUP 178-190  
Iron Ore—Types of Ores, Distribution, Reserves and Production, Exports;  
Manganese Ore—Occurrence, Reserves, Distribution, Production, Consumption,  
 Exports; Chromite—Reserves, Distribution, Production, Consumption,  
 Exports; Pyrite—Distribution, Production, Imports
17. METALLIC MINERALS: NON-FERROUS GROUP 191-201  
Gold—Occurrence, Distribution, Production, Copper Ore—Occurrence, Dis-  
 tribution, Production; Bauxite—Reserves, Distribution, Production, Con-  
 sumption, Exports, Zinc and Lead Ores—Occurrence, Distribution, Produc-  
 tion, Imports; Silver—Distribution, Production, Exports
18. NON-METALLIC MINERALS 202-216  
Limestone and Dolomite—Distribution, Production, Consumption of Dolo-  
 mite; Mica—Occurrence, Distribution, Mining and Dressing, Production,  
 Consumption, Exports; Apatites and Rock Phosphates—Distribution, Produc-  
 tion, Imports; Kyanite and Sillimanite—Kyanite, Sillimanite; Gypsum—  
 Distribution, Production, Consumption; Magnesite—Occurrence, Distribu-  
 tion, Production, Exports; Steatite—Distribution, Production; Salt—  
 Distribution, Mining and Processing, Production, Exports
19. POWER RESOURCES: MINERAL FUELS 217-232  
Coal—Occurrence, Reserves, Distribution, Production, Consumption, Prob-  
 lems of Coal Industry, Foreign Trade; Lignite—Reserves and Production;  
Petroleum—Occurrence, Reserves, Distribution, Progress of Oil Exploration  
 and Production, Imports, Pipe-lines, Refineries, Marketing of Petroleum  
 Products; Nuclear Energy Minerals—Uranium, Thorium, Nuclear Power  
 Stations
20. POWER RESOURCES: ELECTRICITY 233-237  
 Progress since Independence, Pattern of Power Development, Regional  
 Boards, Distribution
21. DEVELOPMENT OF INDUSTRIES 238-243  
 Development in Pre-Independence Period, Achievements since 1947, Foreign  
 Collaboration, Localisation Factors; Major Industrial Regions—The Hooghly  
 Belt, The Bombay-Poona Belt, The Ahmedabad-Baroda Region, The Madras-

Coimbatore-Bangalore Region, The Chotanagpur Plateau Region, The Mathura-Delhi-Saharanpur-Ambala Region.

244-263

## 22. TEXTILE INDUSTRIES

Cotton Textiles—History and Development, Locational Factors, Distribution, Production, Handlooms and Powerlooms, Exports, Problems of Cotton Textile Industry; Jute Textiles—History and Development, Development of Jute Industry in West Bengal, Other Areas, Production, Exports, Problems of Jute Industry; Silk Textiles—History and Development, Distribution, Production, Exports, Problems of Silk Industry; Man-made Fibres—Development, Raw Materials, Producing Centres, Production, Imports, Exports; Woollen Textiles—Development, Distribution, Production, Carpets and Namdahs, Exports, Imports, Problems of Woollen Textile Industry

264-277

## 23. METALLURGICAL INDUSTRIES

Iron and Steel—History and Development, Raw Materials, Process, Centres of Production, Primary Producers, Mini Steel Plants, Sponge Iron Plants Secondary Producers, Production, Demand for Steel, Foreign Trade; Aluminium Smelting—Development, Localisation, Producing Centres, Production, Foreign Trade; Copper Smelting—Development, Refining Centres, Production, Imports; Lead and Zinc Smelting—Lead, Zinc

278-290

## 24. ENGINEERING INDUSTRIES

Heavy Machinery—Structurals; Industrial Machinery—Textile Machinery, Sugar Mill Machinery, Cement Mill Machinery, Chemical and Pharmaceutical Mill Machinery, Coal Mining and Washery Machinery, Jute Mill Machinery, Other Types of Machinery; Machine Tools and Hand Tools, Exports, Railway Equipement—Locomotives, Rails, Wagons and Coaches, Exports; Ship Building; Automobiles, Exports; Bicycles; Agricultural Machinery—Tractors, Power Tillers, Implements, Power Driven Pumps and Diesel Engines, Light Mechanical Engineering Goods; Heavy Electrical Engineering—Electric Motors, Exports; Light Electrical Engineering Goods; Electronics—Microwave Communications, TV Receivers

## 25. CHEMICAL AND ALLIED INDUSTRIES

291-315

History and Development; Heavy Inorganic Chemicals—Acids, Alkali Chemicals, Heavy Organic Chemicals—Petrochemicals; Fertilisers—Development, Feedstock and Raw Materials, Distribution, Production; Plastics—Production of Plastics Raw Materials, Conversion Industry, Exports; Pharmaceuticals—Production, Foreign Trade; Pesticides; Dyestuffs; Paints and Varnishes; Soaps and Detergents; Cement—Development, Raw Materials, Manufacturing Processes, Distribution, Production; Rubber Goods—Raw

XV CONTENTS

- Materials, Production, Exports; Leather and Leather Goods—Tanning, Leather Goods, Exports; Glass—Raw Materials, Distribution, Production, Exports; Ceramics 316-325
26. FOREST-BASED INDUSTRIES
- Paper and Paper Board Industry—Development, Raw Materials, Manufacturing Processes, Distribution, Production, Foreign Trade, Problems of Paper Industry; Match Industry; Lac Industry—Production, Exports; Sports Goods—Exports 326-335
27. FOOD AND ALLIED INDUSTRIES
- Sugar Industry—History and Development, Factors of Localisation, Distribution, Production, Internal Trade, Exports, Problems of Sugar Industry, By-products; Flour and Rice Milling—Flour Mills, Rice Mills; Vegetable Oils and Vanaspati; Alcohol Industry; Tobacco Manufacturing—Cigarette Industry, Bidi Industry, Cigar Industry; Cheroot Industry 336-338
28. SMALL SCALE AND VILLAGE INDUSTRIES
- Small Scale Industries, Handicrafts, Coir Industry, Khadi and Village Industries 339-361
29. TRANSPORT
- Railways—Progress of Indian Railways, Gauges and Traction, Railway Zones, Problems and Programmes; Roads—Progress since Independence, Twenty-Year Road Plan, National Highways, State Highways, District Roads, Village Roads, Border Roads, International Highways, Motor Vehicles; Inland Waterways—Areas of Inland Water Transport, Problems of Inland Water Transport; Shipping—Shipping Companies; Ports, Major Ports, Containerisation, Intermediate and Minor Ports, Coastal Shipping; Air Transport—Aerodromes, Air Services, Air Cargo, Problems 362-376
30. FOREIGN TRADE
- Volume of Foreign Trade; Balance of Payments, Composition of Exports—Engineering Goods, Leather and Leather Manufactures, Pearls, Precious and Semi-Precious Stones, Readymade Garments, Tea and Mate, Jute Manufactures, Iron Ores, Cotton Fabrics, Fish and Fish Preparations, Chemicals and Allied Products, Coffee, Spices, Sugar, Other Agricultural Commodities, Works of Art, Iron and Steel, Ores and Minerals (other than Iron Ore), Made-up Cotton Articles; Factors Responsible for Slow Growth of Exports Composition of Imports—Petroleum and Petroleum Products, Machinery and Transport Equipment, Iron and Steel, Vegetable Oil, Manufactured Fertilisers,

Non-Ferrous Metals, Pearls, Precious and Semi-Precious Stones, Inorganic and Organic Chemicals, Other Commodities; Direction of Foreign Trade—Asia and Oceania, Western Europe, USSR and Eastern Europe, North America, Latin America, Africa; Foreign Trade Policy

377-388

**31. POPULATION**

Growth of Population—Birth and Death Rates; Distribution of Population—Areas of High Density, Areas of Medium Density, Areas of Low Density; Characteristics of India's Population — Life Expectancy, Age Structure and Sex Ratio; Race, Religion and Language, Rural Population, Urban Population

389-392

**BIBLIOGRAPHY**