Sanatana Bharat
TIMELESS INDIA

Jagrita Bharat
RESURGENT INDIA

A Land of Rare Natural Endowments

CENTRE FOR POLICY STUDIES CHENNAI

A Vast and Rich Land

India is a vast country. From the northern borders of Kashmir to the southernmost tip at Kanyakumari, our land extends over 3,200 kilometres, and from the eastern boundary of Assam to the western border of Baluchistan, it extends over 3,500 kilometres. Total area of what has historically constituted India is 423 million hectares. Of this about 94 million hectares today fall under Pakistan and Bangladesh, and 329 million hectares in the Indian Union.

In terms of area, India today is the eighth largest region in the world, after the Russian Federation (1708 mn hectares), China (960 mn hectares), USA and Territories (936 mn hectares), Canada (922 mn hectares), Brazil (851 mn hectares), Australia (768 mn hectares), and Western Europe (371 mn hectares). But that does not mean that the Indian land is eighth in value. On the contrary, India is one of the richest regions of the world.

The Largest Cultivable Area in the World

India is blessed with extra-ordinary fertility within its relatively compact landmass. In terms of cultivable area, India is in fact the best-endowed country of the world. Three-fifths of our geographical area is cultivable. In most other valuable regions of the world, no more than one-fifth of the lands are cultivable. And the average for the world is only one-tenth.

Measured in terms of cultivable area, India is the richest region of the world. The Indian region commands 190 million hectares of cultivable land, of which 160 million hectares are in the Indian Union. Cultivable area of the USA is 177 million hectares, that of the Russian Federation 126, China 124, Western Europe 77, Australia 56, and Brazil 53 million hectares.

India not only has a larger cultivable area than all other great regions of the world; Indian lands are also the most fertile. And the compact geography of India has always been described in superlative terms.

Protected and Nurtured by the Himalayas

The key to India's peculiar geography and extraordinary fertility lies in the Himalayan Ranges. The Himalayas are the loftiest mountain range in the world. From 250 to 400 km wide, this Roof of the World stretches for 2,400 km across the north of India. It boasts of the three highest points on the earth's surface: Gowri Shankar also known as Mt. Everest at 29,141 feet (8848 m), and Kanchenjunga and K2 at 28,150 feet (8598 m) each. There are fifty Himalayan summits of 25,000 feet (8,000 m) or more. The Himalayan range has an average elevation of 19,000 feet (6,000 m). The length, breadth and height of the Himalayas are unparalleled in the world.

The mighty Himalayas, with great subsidiary ranges curving southward at either end, look on the relief map like a grand wizened benefactor protectively holding the Indian landmass in his outstretched arms. The Himalayas indeed protect and nurture the Indian land with great generosity. Geographically, the Himalayas belong as much to Tibet as to India, but their bounty is reserved entirely for India. All the rain that falls and all the snow that melts, whether on the northern or southern flanks of the Himalayas, is poured into India.

The Sindhu-Ganga Plain

The waters that the Himalayas pour into India, through the three great Himalayan rivers, Sindhu, Ganga and Brahmaputra, and their tributaries, bring with them large quantities of life-giving silt. The Sindhu-Ganga plain, the most fertile area of its size in the world, is formed by the silt of the Himalayas.

The Sindhu-Ganga plain is noted for its antiquity, size, fertility, depth and flatness. It extends from the Sindhu delta in the west to the Ganga delta in the east. The entire plain, some 3,000 kilometres long and 250 to 400 kilometres wide, is alluvial. The plain covers about a fifth of the geographical area of India; and the whole of it is cultivable.

An American scholar writing on the eve of Indian Independence speaks about this extraordinary plain in the following terms:

"A great part of its soil is renewed every year by floods, and the mud brought down from the hills is so fine that it is reputedly possible to traverse the entire length of the plain 'without finding a pebble, however small.' The alluvium, in addition to being remarkably uniform over its entire extent of approximately 80 million hectares, is extremely thick. The exact thickness has never been ascertained, but borings have penetrated it to a depth of 1,300 feet without reaching a rocky bottom. The plain is also exceptionally flat. It has 'not a hill, not even a mound to break the monotony of the level surface.' Agra, halfway between the two deltas and more than 2,000 kilometres by river from the sea, is only 550 feet above sea level. 'This flatness makes the rivers flow slowly, thus fertilising the country thoroughly and affording easy waterways and irrigation channels.' This is one of the world's greatest expanses of rich, tillable soil, and thus one of the world's greatest agricultural regions."

Today the depth of the alluvium in this plain, especially in the Ganga region, has been measured up to 5000 metres.

The Great Coastal Plains

Besides the Sindhu-Ganga plain, which covers a fifth of the geographical area of India and two-fifths of the cultivable lands, there are the coastal plains, which are also alluvial and equally fertile. The plain in the west, called the Konkan in its upper and Malabar in its lower part, is relatively narrow, averaging about 70 kilometres in width. The plain in the east, covering Kalinga, Andhra and Cholamandalam regions from the north to the south, is broader, and is endowed with the fertile deltas of the rivers flowing across the broad deccan plateau. These two coastal plains contain almost 40 million hectares of land, all of which is cultivable. The Sindhu-Ganga plain and the two coastal plains together thus encompass one-third of the geographical area and two-thirds of the cultivable area of the Indian region. All of this area is highly fertile.

Most of the remaining cultivable land lies in the Deccan plateau, which rises from 1000 to 2000 feet above sea-level and is broken up into many river valleys and hills. The black cotton soil of the northwestern part of the plateau and the river valleys are fertile, though not as rich as the alluvial plains.

Such unbroken and abundant fertility in such a compact geography is unknown anywhere else in the world.

The Ganga River

The Sindhu, Ganga and Brahmaputra are amongst the mightiest rivers of the world. But the Ganga is special. It is the physical and spiritual life force of India.

From Gangotri to Gangasagar, the Ganga flows over a distance of 2,525 kilometres. The average flow of the Ganga is 38,000 cubic metres per second, making it the third amongst the greatest rivers of the world, after only the Amazon in South America (100,000 cu. m. per sec.) and the Congo in Africa (43,000 cu. m. per sec.). The Ganga brings 360 million tons of the Himalayan silt every year to the great Indian plains. Only the Huanghe, which is almost a river of mud, and the Mississippi and Changjiang carry more silt.

The Ganga is great not merely in statistics. The river flows slowly and gracefully through the entire heartland of India, steadily endowing it with fertilising silt and life-giving water. This is the secret of the great fertility of the Indian plains. The heartland of India is born of the Ganga and the Ganga has nurtured it for uncounted millennia.

Pt. Jawaharlal Nehru, who was not given to emotions about the sacred geography of India, was moved to write:

"The Ganga is above all the 'River of India', which had held India's heart captive and drawn uncounted millions to her banks since the dawn of history. The story of the Ganga from her source to sea… is the story of India's civilisation and culture,…"

Other countries have given the name of Ganga to their greatest rivers. The Sri Lankans call their greatest river, the Mahaveli Ganga, and the Mekong of Indo-China is an anglicisation of Maha Ganga.

Other Great Rivers of India

Great Rivers give rise to great civilisations. Most major civilisations of the world have sprung around some single great river. Egypt rose on the Nile; Mesopotamia rose on Euphrates and Tigris; Europe on the Danube.

India is an unusual region of the world that is blessed with not one but several great rivers, each of which is individually capable of giving rise to and supporting a great civilisation on its own. Moving from the north to south, we have the Sindhu and the five rivers of the Punjab plains; the Yamuna, Sarayu, Gandak, Kosi, the Ganga and Brahmaputra of the heartland; the Narmada and Tapti crossing the deccan plateau from the east to the west; the Mahanadi crossing the plateau from the west to the east and fertilising Madhya Pradesh and northern Orissa; Godavari, passing through Maharashtra and Andhra; and Krishna and Kaveri in the South supporting great fertile valleys of Andhra, Karnataka and Tamilnadu. These are the greatest of our rivers. And, there are many more passing through almost every part of India. There is no geographical region of the world of comparable size that has such an abundance of rivers.

The Indians have always been aware of the great blessing bestowed upon them in the form of these rivers. Most Indians pay obeisance to the great rivers of India during their morning ablutions.

The Abundant Rains

The rainfall of India, and hence the capacity of our rich lands to produce abundant crops, depend on the monsoon. Monsoon is Arabic for season; Indians call it the *varsha kala*. In the four months of the *varsha kala*, India obtains 90 percent of the total rain. Almost every part of India is drenched in the bounty. Only the Sindhu plain—including Sindh, and parts of Baluchistan, Rajputana, Punjab and North-West Frontier—and extreme southern parts of the eastern coast receive scanty rain. The Himalayas play a crucial role in making the rain winds rise and then forcing them to exhaust their entire moisture over India. Tibet on the other side of the Himalayas receives none of it.

Average annual rainfall in the Indian region amounts to 105 cm, which is the largest anywhere in the world for a country of comparable size. The rains pour a total of 4500 billion cubic metres of water over the Indian region. The USA with about 2.5 times the geographical area of the Indian region receives about the same amount of water. And, the USA is considered to be one of the richest regions of the world in natural endowments. China, with a geographical area somewhat larger than the USA, receives about 6000 billion cubic metres, with average annual rainfall of 63 cm.

Of the rainwaters that India receives annually, about 450 billion cubic metres recharge the groundwater resources, and about 2000 billion cu. m. flows through the rivers of India. The rivers of China carry about 2600 billion cubic metres of water and those of the USA 1,700 billion cubic metres. Thus the bounty that India receives from the rains is comparable to the most bounteous and much larger regions of the word.

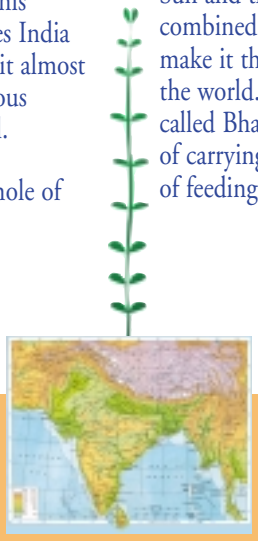
The Sunshine and Warmth of India

The Himalayas not only nurture the Indian lands with silt and water, they also conserve the heat and warmth necessary to harvest abundant crops.

Geographically India is not a tropical region. All of India lies to the north of the equator, and 60% of India lies north of the tropic of Cancer. This location should normally make much of India cold, like other countries in the so-called temperate zone. But, the great wall of Himalayas effectively screens India from the cold northern winds and at the same time concentrates the monsoon winds blowing up from the warm tropical seas. This unusual geographical feature makes India largely warm and humid, making it almost the ideal place on earth for luxurious growth of crops and life in general.

The sun shines over almost the whole of India throughout the year, allowing us to grow crops round the year. Almost everywhere in India, and certainly in the fertile plains and river valleys of India, it is possible to grow two crops in a year, and with effort, even three. There is hardly any other region of the world, where this is possible over such a large area. In China, just one crop can be grown a year in the northern half of the cultivable zone, and only in the tropical zone in the south can China grow five crops in two years, as is possible in almost the whole of India.

The Land, including the Himalayas, the Sun and the Waters in India seem to have combined together in a rare synthesis to make it the richest agricultural region of the world. It is not lightly said that India is called Bharat, because this land is capable of carrying out *bharana* of the whole world, of feeding the entire earth.



Vegetation and Animals of India

With such rich soils, climate and water, it is not surprising that India supports an extraordinarily great variety of flora and fauna. There are about 45,000 species of plants including shrubs in the country. Of these 35 percent are endemic to India, and are not found anywhere else in the world. This makes India one amongst the countries with highest diversity of vegetation in the world.

India supports 75,000 species of animals, birds and insects. This forms one-twelfth of the known fauna of the earth, though in terms of geographical area, we are only one fortieth of earth. India is also known to be very rich in the variety of micro-organisms it supports.

Indians are known to have been proficient in the study of their flora and fauna since very early times. The number of herbs and animals described in the ancient texts of Ayurveda, like *Charaka Samhita* and the *Sushruta Samhita* is phenomenal. The ancient medical texts of China alone come anywhere near those of India in their knowledge of flora and fauna.

Mineral Wealth of India

India's great mineral wealth makes her probably the third most gifted of the world's regions with respect to industrial capacity. India has abundant, widespread and excellent deposits of iron ore; proven reserves of Iron ore amount to 12 billion tons; at our present level of production these reserves suffice for 300 years. We have 220 billion tons of coal and lignite. Indian coal has somewhat high ash content, but the reserves are large enough to last us for 750 years at the present level of exploitation.

Amongst the newer metals, India has one of the largest deposits of Bauxite, the ore from which Aluminium is produced. Indian reserves of Titanium Ore, Illmenite, are the largest in the world; more than one third of the world's proven resources of Illmenite are in India. Indian deposits of Rare Earths are second only to that of China. We have large Thorium reserves amounting to 360,000 tons; these reserves are sufficient to establish a nuclear energy capacity of 1 million megawatts and sustain it for 240 years.

India has abundant to medium reserves of most of the essential metallic and non-metallic minerals. Only serious lack is that of petroleum, which has not yet been fully explored. The lack of presently proven deposits of petroleum is largely made up by the abundant availability of sunshine, of coal and of the minerals required for large scale generation of nuclear power.

The Most Populous Country of the World

Having been blessed with such extraordinary natural wealth it is not surprising that Indian lands have always supported vast multitudes. Indians have been the largest civilisational group in the world till almost the modern times. According to currently accepted scholarship in historical demography, Indian population remained the highest in the world till 1700 AD, with Chinese being a close second.

Ferishta in circa 1600 AD estimated the Indian population prior to 1100 AD at 600 million, when the total population of the European world according to estimates of western scholars was merely 100 million.

Kautilya's Arthashastra says that a *grama* should have at least a hundred households, and according to many classical texts, India consists of 5 lakh *gramas*. This means that Indian population in normal times in the classical ages was at least around 50 million households, or about 500 million people, if the Indian ideal of eight children per family is taken seriously.

Indians today constitute only the fourth largest civilisational group in the world, after the Europeans, the Chinese and the Islamic people. Throughout history we have been the major part of humanity. Today we constitute one-sixth of it.

Large Arable Land Per Person

By the current standards of the world, India is not really overpopulated. The number of people per arable hectare of land in India today is almost the same as in Europe, and much less than that in China and Japan. Only very sparsely populated regions of the world like the USA, the former USSR and Australia have considerably lesser people per arable hectare of land than us. And, since we are blessed with perennial rivers and perennial sunshine, and can grow two crops in a year almost everywhere in the country, each hectare of arable land in India is potentially equal to two hectares almost anywhere else in the world.

Region	People/ Arable Ha Y. 1950	People/ Arable Ha Y. 1990
World	1.9	4.0
Asia	3.4	7.5
Europe	4.4	5.9
Africa	1.4	3.9
America	3.4	7.3
Indian Region	2.2	5.5
Indian Union	2.2	5.1
China	6.0	12.2
Japan	20.5	30.2
UK	7.6	8.6
France	2.3	3.2
Italy	5.2	6.4
USA	0.8	1.3
USSR former	0.8	1.3

Indian Prosperity Held the World in Thrall

Rivers of unimaginable expanse and depth, vast lands of unheard-of fertility, shining bright sun, large numbers of animals of unusual health and intelligence, and great multitudes of healthy people with immense dignity, everywhere: that is how India has been seen by others throughout the ages. The classical Indian texts, of course, recognise these to be the basic attributes of prosperity in a civilisation. But, the foreigners who came here were also greatly struck by the immensity of the sunshine, lands, rivers, animals and people of India. In the Greek accounts of the campaigns of Alexander, one sees a sudden and remarkable change as Alexander enters the lands on the periphery of India. Alexander, who till then seemed to be passing through almost barren expanses, suddenly begins to encounter one populous kingdom after another, each one strongly defended by its brave people. And, the mood of the narrator, which till that point seems to be one of dismissive haughtiness, changes to that of awe at the fertility of the lands, the greatness of the rivers, the strength and intelligence of the animals and the bravery of the multitudinous people.

Megasthenes, Pliny, Strabo and other Greek and Roman authors, who wrote about India, all reflect this sense of awe. Even Herodotus, the renowned Greek historian, refers to India as "the most populous nation in the known world". The later accounts of Chinese travelers Fa-Hian and Hiuen Tsiang, who visited India at the time of the Guptas and Harshavardhana respectively, are also pervaded by the same sense of awe at the immensity and affluence of Indian lands and her people. Medieval Arab observers and the early European travellers also record the large numbers and the great fertility of India. The images of emasculated Indian lands, animals and people are of rather recent colonial construction.

The Splendid Isolation

We have not only been blessed with a land of rare fertility and wealth, but also the gods seem to have conspired to make this land into an impregnable fortress.

The Himalayas have for millennia protected the Indian lands from external incursions. In the north, the steep Himalayan Ranges are covered with snow and ice. In the northeast, between Burma and India, an extremely heavy rainfall produces on the sharp mountain slopes and in the deep valleys a dense forest, with impassable streams flowing southwards. Only in the northwest, where the elevation is still high but the rainfall is too scant to produce much vegetation, could entrance to India be gained. Here, however, barren conditions created a sparse population and difficult travel conditions. The northwestern border was therefore easy to defend. The seacoasts of India in the south are far away from any other major lands and have few natural harbours.

The impassable Himalayas and the unapproachable seacoasts have together endowed India with remarkable isolation from the rest of the world. That is why the Greeks who entered India with Alexander could insist that they had arrived in a land that had never been conquered by others, and that had never coveted to conquer others.

Such splendid isolation has allowed us to live securely within our vast and fertile lands for millennia and thus develop an extraordinarily sophisticated and rich civilisation that in its grandeur and longevity is unlike any other in the world. The achievements of Indian civilisation have indeed been unmatched both in spiritual and social depth, and in material abundance.

The Uniqueness of Indian Culture

India's long geographical isolation explains the uniqueness of Indian culture. Indian ideas and institutions, taken as a whole, resemble those of no other people. They have a peculiar shape and flavour of their own. They have tended to transform and absorb any foreign element that trickled into the region; for India, though politically conquered by outsiders, was never culturally conquered.

This peculiar culture has to some degree penetrated and pervaded nearly every part of what is geographically India. It has everywhere been affected by local, indigenous variations. …But neither the geographical nor the social barriers inside the subcontinent have been sufficient to prevent the widespread diffusion of a common, basic culture, which despite great variation, is peculiarly Indian.

—Kingsley Davis (1951)