

ARTHAŚĀSTRA ON ECONOMIC AND COMMERCIAL GEOGRAPHY

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Abstract

In the modern economic and commercial geography, the topics generally dealt with are agriculture, irrigation, cattle-rearing, various mineral resources, industries and commerce, transport and communication, population and census of men and animals. The general notion, however, is that ancient Indians had no sense or concept of economic and commercial geography and they were totally ignorant of the methodology of these two branches of knowledge.

This paper strives to prove that the above view is totally erroneous and that the *Arthaśāstra* of Kauṭilya exhibits profound knowledge of the above branches of geography; not only this: its dialectics and methodology of the treatment of the above mentioned subjects also are much in conformity with the established modern principles and methodology of presentation.

INTRODUCTION

The state is sustained by the revenue it collects from its subjects. The source of *vārttā* or economy of the state is principally three, *viz.*, *kṛṣi* (agriculture), *pāśupālya* (cattle-tending) and *vaṇijyā* (trade), which are beneficial, as they yield grains, cattle, money, forest produce and labour¹:

कृषिपाशुपाल्ये वणिज्या च वार्त्ताधान्यपशुहिरण्यकुप्यविष्टिप्रदानादौपकारिकी ।

The *Arthasāstra* of Kauṭilya gives a lot of information regarding the concepts of economic and commercial geography in ancient India. This article will restrict itself to the relevant chapters of this text and glean the needed information through the scientific kaleidoscope of geography proper.

(i) Agriculture:

The most important of the three vocations is agriculture. In Book 2 Chapter 24² on the "Superintendent of Agriculture", Kauṭilya highlights the interrelationship of rain, wind and sunshine and cultivation of crops like rice, wheat, pulses, oil seeds, sugarcane and vegetables. In other words, the agricultural activities, the necessary environment and the irrigation facilities have been elaborated by Kauṭilya.

The crops are classified into three categories³ – (i) *Kedāra* (Wet crops), (ii) *Haimanta* (winter crops) or (iii) *Graiṣmika* (summer crops). This classification is even now prevalent in India. The seasons of sowing of these crops are also mentioned:

कर्मोदकप्रमाणेन कैदारहैमनं त्रैष्मिकंवासस्यंस्थापयेत् ।

Kauṭilya records four types of irrigation – (i) *hastaprāvartimam* (by manual labour), (ii) *skandhaprāvartimam* (by carrying water on shoulders), (iii) *strotoyantprāvartimam* (by water lifts– water supplied by channels or canals) and (iv) *nadīsarasaṭākakūodghāṭam* (by raising water from rivers, lakes, tanks and well)⁴:

स्वसेतुभ्योहस्तप्रावर्तिमम् उदकभागंपञ्चमं दद्युःस्कन्धप्रावर्तिमंचतुर्थम्
स्रोतोयन्त्रप्रावर्तिमम् चतुर्थीयम् चतुर्थं नदीसरस्तटाकूपोद्घाटम् ।

(ii) Forest produce :

Arthasāstra 2.17, furnish almost all the modern types of geographic information on forests. Two classes of forests *viz.*, (i) timber forests and (ii) elephant forests are mentioned in the text.

This chapter earns our unreserved admiration in being one of the profoundest pieces of methodology of scientific geography.

Under this section different types of products from the forests are mentioned. The groups of trees that yield hardwood (*sāradāruvarga*) are: *śāka*, *tiniśa*, *dhanavana*, *arjuna*, *madhūka*, *tilaka*, *aśvakarṇa*, *āmra*, *priyaka*, *dhava* and so on⁵:

शक-तिनिशधन्वन-अर्जुन-मधूक-तिलक-साल-शिशपा-अरिमेद-राजादन-शिरीष-
खदिर-सरल-ताल-सर्जा-अश्वकर्ण-सोम-वल्क-कुश-आम्र-प्रियक-वादि:सारदारुवर्गः ।

Next the groups of reeds (*venuvarga*) like *uṭaja*, *cimiya*, *cāpa*, *veṇu*, *vamśa*, *sā tina*, *kaṇṭaka*, *bhāllūka* and so on are enumerated⁶:

उटज-चिमिय-चाप-वेणु-वंश-सातिन-कण्टक-भाल्लूकादिर्वेणुवर्गः ।

Other than these, the groups constituting of creepers (*vallīvarga*), fiber-plants (*valkavarga*), raw materials for ropes (*rajjubhāṇḍam*), varieties of leaves and some flowers (*patra*, *puṣpa*) of economic value and medicinal plant products (*auśadhavarga*) are also stated in detail.

Interestingly, Kauṭilya mentions different types of poisons collected for economic value. He also mentions live specimens (poisonous) kept in jars and classifies these under the group of poisons (*viṣavarga*)⁷:

कालकूट-वत्सनाभ-हालहल-मेषशृङ्ग-मुस्ता-कुष्ठ-महाविष-वेल्लितक गौरार्द्रबालक-
मार्कट हैमवत-कालिङ्गक-दारदक-अङ्गोलसार-ओष्ट्रकदीनि विषाणि, सर्पाःकीटाश्च त एव
कुम्भगता :विषवर्गः ।

Skins, bones and tusks are the fauna resources of the forests. Metals, pottery materials and various fuels like charcoal are also specifically mentioned. Beasts, cattle and birds are said to be the sources for menageries, Firewood and fodder are the other forest wealth.

(iii) Cattle-tending and Dairy products :

Arthasāstra 2.29 deals with the rearing of milch animals, sheep, goats, horses, asses, camels, hogs and the like. Dairy products and their economic value are also explained. Other than these the hide, hair, flesh of cattle and the wool of sheep and goats are also sold.

Kauṭilya then explains different types of cattle as: Calves, weaned calves, young bulls being broken in, draught-bullocks and stud-bulls are male cattle; buffaloes drawing a yoked vehicle or a cart, stud-buffaloes, slaughter-buffaloes and those carrying (loads) on their backs and shoulders are male buffaloes; the heifer, the weaned heifer, the cow with calf for the first time, the cow with the young, the milch-cow, the cow that has not borne a calf and the sterile cows and she-buffaloes; those a month or two old, are their off-springs, known as calves and heifers⁸:

वत्सावत्सतरादम्यावहिनो वृषा उक्षाणश्च पुंगवाः युगावाहनशकटवहा
वृषभाःसूनामहिषाः पृष्ठस्कन्धवाहिनश्चमहिषाः, वत्सिकावत्सतरीपष्ठौहीगर्भिणी
धेनुश्चाप्रजातावन्ध्याश्चगावोमहिष्यश्च, मासद्विमासजातास्तासामुपजावत्सावत्सिकाश्च ।

(iv) Mining industry:

(a) Mode of occurrence of the gems, their characteristic features, distribution and method of mining of gems, are explained in *AS*. 2. 11 on "Examination of the Precious articles to be received into the treasury". Kauṭilya lists the precious gems to be ruby, beryl, sapphire and sun-stone and describes their physical characteristics as⁹:

सौगन्धिकःपद्मरागोऽनवद्यरागःपारिजातपुष्पकोबालसूर्यकः । वैडूर्य उत्पलवर्णः
शिरीषपुष्पक उदकवर्णो वंशरागः शुकपत्रवर्णः पुष्यरागो गोमूत्रको गिमेदकः ।
इन्द्रनीलो नीलावलीयः कलायपुष्पको महानीलो जम्बवाभो जीमूतप्रभो नन्दकः स्रवन्मध्यः ।
शुद्धस्फटिको मूलाटवर्णः शीतवृष्टिः सूर्यकान्तश्च । इति मणयः ।

(b) AŚ. 2. 12on "Starting of mines and factories" enumerates on the various types of ores, their occurrence, art of smelting and the science of metallurgy. It also tells us that ore may be found on plains as well as on mountains – occurrences of ores of gold, copper, silver, iron, lead, tin and others are quite scientifically detailed.

The fact that some minerals are found in impure, mixed or compound state is also recorded here. Refining of minerals is also referred to. The text explains the method for softening the metal ores thus: In a mixture of honey and liquorices, goat's milk with sesamum oil, mixed with ghee, jiggery and fermenting stuff, together with *kandalī*, if a metal ore is infused only three times then the metal, that may have been broken even a hundred-thousand fold, will become soft¹⁰:

मधुमधुकजापयः सतैलंघृतगुडकिण्वयुतं सकन्दलीकम् ।

यदपि शतसहस्रघा विभिन्नं भवति मृदु त्रिभिरेव तन्निषेकैः ॥

There is also a brief note on the manufacture of various commodities from the metals and minerals like minted silver coins, collection of salt after crystallization of minerals.

(v) Trade:

In 2. 16, Kauṭilya provides details about internal trade, foreign imports and exports, transport of merchandise and relevant features of commercial towns.

(a) Kauṭilya in 7. 11, talking of trade routes declares: "The water-route is restricted in movements, not usable at all times, a source of great dangers and without remedies; the land-route is the opposite of this"¹¹:

संरुद्धगतिरसार्वकालिकः प्रकृष्टभययोनिर्निष्प्रतीकारश्चवारिपथः विपरीतः स्थलपथः ।

(b) Among the land routes, Kauṭilya is of the view that the northern trade route is beneficial for the commodities of blankets,

skins and horses; the other articles of merchandise such as, conch shells, diamonds, rubies, pearls and gold, are found in plenty on the southern routes¹²:

कम्बलाजिनाश्वपण्यवर्जाःशङ्खवज्रमणिमुक्तासुवर्णपणयाश्चप्रभूततरा दक्षिणापथे ।

(c) Further he adds that a cart-track is better since it affords facilities for preparations on a large scale. Moreover, Kautilya says that, routes traversed by asses or camels, irrespective of countries and seasons are always in good maintenance¹³:

तत्रापि चक्रपादपथयोश्चक्रपथो विपुलारम्भत्वाच्छ्रेयान् देशकालसंभावनोवाखरोपूपथः ।

AS, 2. 11 discusses the trade of woolen goods, blankets, silk goods, cotton fabrics and production of other raw and finished commodities¹⁴:

शुद्धंशुद्धरक्तं पक्षरक्तंचाविकम् खचित्रंवानचित्रं खण्डसंघात्यंतनुविच्छिन्नं च । कम्बलः
कौचपकः कुलमितिकासैमितिकातुरगास्तरणं वर्णकंतलिच्छकंवारवाणः परिस्तोमः
समन्तभद्रकंचाविकम् ।

(vi) Political geography :

Kautilya provides some of the most sanguine principles regarding the economic geography and geopolitics. Scholars compare his standard of the orisation with that of Ratzel, Herfort Makinder and other modern scholars of political geography.

This idea is clear from Kautilya's statements in the AS, 7. 11 on "Pact for Unsettled Land". Territorial aggrandizement – expansion, its geopolitical implication, power of politics and international consequences are also succinctly touched upon in this chapter.

When the question is raised as to which type of land can be colonized, Kautilya says, "A limited tract of land with water, is far better than a vast plain, in as much as the former is conducive to the growth of crops and fruits throughout the year"¹⁵:

त्रापिस्थलमौदकवेतिमहतःस्थलादल्पमौदकश्रेयः सातत्यादवस्थितत्वाच्च फलानाम् ।

As between the benefit of mines and that of grains, the text says that, the benefit of mines enhances the treasury and that of grains enhances both the treasury and the store-house¹⁶:

खनिधान्यभोगयोःखनिभोगःकोशकरः;धान्यभोगःकोशकोष्ठागारकरः ।

Kautilyaalso holds the view that having material forests in many tracts of land,is beneficial to the nation¹⁷:

शक्यंद्रव्यवनमनेकमनेकस्यांभूमौवापयितुम् ।

Kautilya is quite practical when he dictates that it would be beneficial to settle labourers in such tracts because of its capacity to yield all (kinds of) benefits; settlement of farmers would result in plentifulness and definiteness of agriculture; settling cowherds in these places would help in related and other undertakings; settlement of traders would bring benefits of stores of goods and loans¹⁸:

...निवेशेशर्वभोगसहत्वादवरवर्णप्रायाश्रेयसी, बाहुल्याद्भुवत्वाच्च कृष्याःकर्षकवती, कृष्याश्चान्येषांचारम्भाणांप्रयोजकत्वाद्गोरक्षकवती, पणयनिचयर्णानुग्रहाद्आढ्यवणिग्वती ।

From the few specimens of views related to trade and commerce stated above it is clear that Kautilya has very capably and logically examined the pros and cons of colonization which was much in vogue in ancient India.

Another interesting topic related to political geography is the method of taking census. This has also been highlighted by Kautilya in 2. 35 and it almost matches the current day method. As part of this the administrator of a countryside must record information regarding the number of villages; the tax exempts; the revenue incurred from grains, cattle, cash, forest produce, labour and produce in place of tax.

Moreover he must keep record of houses by an enumeration of tax-payers and non-tax-payers. And among them, he much record the number of farmers, cowherds, traders, artisans, labourers and slaves. Also the two-footed and four-footed creatures and the amount of money, labour, duty and fines that arise from them¹⁹:

... एतावन्तःकर्षकगोरक्षकवैदेहककारुर्कर्मकरदासाश्च, एतावच्च द्विपदचतुष्पदम्, इदंचैषुहिरण्यविष्टिशुल्कदण्डंसमुत्तिष्ठतीति ।

CONCLUSION

Thus we can see that Kauṭilya had a profound knowledge of the above branches of economic and commercial geography, and not only this, but their dialectics and methodology of the treatment of the above mentioned subjects also are much in conformity with the established modern principles and methodology of presentation. Moreover he has proved wrong the view that ancient Indians had no sense of such concepts of geography and they were totally ignorant of the methodology of these two branches of knowledge.

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2. *Kauṭilya's Arthaśāstra*, tr. by Dr. R. Shamasastri, Wesleyan Mission press, Mysore, 1929 (3rdEdn.).

References :

- 1 *Arthaśāstra*, 1.4. 1.
- 2 The references are as per Kangleedn, which is divided into 15 books of which books 2 and 7 are mostly quoted.
- 3 *AŚ.*,2.24. 19.

- 4 *Ibid.*,2.24. 18.
- 5 *Ibid.*,2.17. 4.
- 6 *Ibid.*,2. 17. 5.
- 7 *Ibid.*,2. 17. 12.
- 8 *Ibid.*,2. 29. 8.
- 9 *Ibid.*,2.11.30-2.
- 10 *Ibid.*,2. 12. 10.
- 11 *Ibid.*,7. 12. 19-20.
- 12 *Ibid.*,7. 12. 23-4.
- 13 *Ibid.*,7. 12. 27.
- 14 *Ibid.*,2. 11. 97-8.
- 15 *Ibid.*,7. 11. 3.
- 16 *Ibid.*,7. 11. 10.
- 17 *Ibid.*,7. 11. 14-6.
- 18 *Ibid.*,7. 11. 21.
- 19 *Ibid.*,2.35. 4.
