

ARBORI-HORTICULTURE: AS KNOWN IN THE PURĀNAS

MAMATA CHAUDHURI

Dept. of Ancient Indian History & Culture,
University of Calcutta,
51/2, Hazra Road,
Calcutta-700019

(Received 20 November, 1991)

In Ancient India, both agriculture and plant-culture (Arbore-Horticulture) were closely connected with each other and the knowledge of trees and plant-life was quite well-known to those who were well-versed in agricultural science. Some of the *Purānas*, as being discussed in this paper, supply us ample information about the hygienic effects of different trees and shrubs planted around the dwelling of a man, manuring and nourishment of trees, various plant-diseases, their curative measures, and evolution of tree through its different stages etc.

The *R̥gveda* and the *Atharvaveda* give useful information regarding medicinal plants. The oldest record of 127 plants of medicinal importance in the world is also found in the *Atharvaveda*. In ancient India, both agriculture and plant-culture (Arbore-Horticulture) were, closely connected with each other. In the *Arthasāstra* of Kauṭilya, it is stated that the *sītādhyakṣa* (Superintendent of Agriculture) should have the knowledge of *vr̥kṣāyurveda* or seek the assistance of persons well-versed in this science. The *Brhat Samhitā* has dealt with elaborately this topic in the chapter namely *vr̥kṣāyurvedādhyāya*.¹ It is stated there that cities and towns should be abounded with gardens and parks² and they should be endowed with flower plants and fruit trees. There are also references to the artificial (*kr̥ta*) and natural (*akr̥ta*) gardens.³ In this connection the *Agni Purāna*⁴ states the hygienic effects of different trees and shrubs planted around the dwelling of a man. For example, the plantation of *plakṣa* (tree) in the north, *vaṭa* in the east, *āmra* in the south and a *aśvattha* in the west is good for health:

vr̥kṣāyurvedamakhyasye plakṣaścottarataḥ śubhaḥ|
prāgvato yāmyatastvāmra apye'śvatthaḥ krameṇa tu||
uttamaṃ viṃśatirhastā madhyamaṃ ṣoḍasāntaram||
sthānātsthānāntaram kāryaṃ vr̥kṣānam dyādaśavaram|
vaiphalāḥ syurghaṇa vr̥kṣaḥ śastrenadau hi śodhanam||

Regarding the plantation of trees (*ropita druma*) and their hygienic effects, the *Agni Purāna*⁵ further states that trees, planted in rows, twenty cubits (*viṃśatirhastā*)

apart should be deemed as best (*uttama*), planted while those having a space of sixteen (*ṣoḍasāntaram*) cubits left intervening between them, should be deemed as ranking second best (*madhyama*) in respect of fruitfulness. Trees should neither be transplanted twelve times (*dvādaśavaram*) nor should they be planted too close or adjoining each other (*śyurghaṇa*), in that case, the branches that touch one another should be lapped off with chopper (*śastrenādaū hi śodhanam*), as otherwise they would bear no fruits (*viphala*). The *Br̥hat Sam̥hitā*⁶ also narrates the distance between trees. There it is prescribed that as to the space to be left between two trees, it is the best if they are planted 30 feet apart from each other, middling, if 24 feet apart, the least distance being 18 feet; for, it is stated, the trees growing closely and touching one another with their roots inter-locked do not yield a good quantity of fruits. The *Sūkranīti*⁷ however, advises the peasants to plant the best trees at a distance of 30 feet; those of middling quality, 22½ feet; ordinary ones 15; and inferior ones 7½ feet apart.

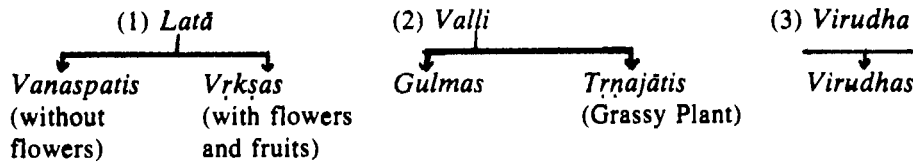
Regarding the manuring and nourishment of trees, the *Agnipurāṇa*⁸ states that a mango tree should be watered with the washing of fish (*matsyodakena śitena āmrāṇām seka iṣyate*). It is still practised by mango-growers in certain parts of Bengal. Ordinarily salt is the best manure for date, palm, coconut trees (*kharjuranārikaladerla-vaṇadbhirvivarḍhanam*), while manure composed of powdered *viḍaṅga* and the washing of meat or fish, suit all trees exceedingly well⁹ (*viḍaṅga matsyamāmsadbhiḥ sarveṣām dohadam śubham*). Again, it is also stated that a tree sprinkled with a solution of cold water and clarified butter (*ghṛtasita payahseka*) becomes laden with abundant fruits and blossoms (*phalapuṣpaya sarveda*). A similar result is obtained by manuring the soil with powdered barley, sesamum (*yavacūrṇa tilānica*) and offal matter of goat (*ayasakṛccūrṇa*) mixed together and soaked in washing of beef (*gomāmsamudakaṅcaiva*) for seven consecutive nights (*saptarātram*). A good growth of trees is secured by sprinkling them with the washing of small fish (*matsyambhasa tu sekena vṛddhirbhavati śākhina*). Regarding the preparation of the soil and manuring, the *Br̥hatsam̥hitā*¹⁰ states that a soft soil is suited to the growth of all sorts of trees. One should saw thereon sesamum which must be crushed when it blooms. This is, as stated in the *Br̥hatsam̥hitā*¹¹, the first act in the preparation of the soil. In present time some parts of India, this form of green manuring is prevalent. Thus cow's, buffaloe's goat's and sheep's dung, clarified butter, *usira*, sesamum, honey, *viḍaṅga*, milk, milk-water, mud, horse-gram, black-gram, green-gram, barley, groat, rice, roots of certain plants, ashes, paste or oil of alangium and cordia, fruits, stale meat, beef and marrow of hog in various combinations were used as manure. The flesh of hog and deer and trumeric powder were employed for fumigation. The use of fish-water for irrigating certain trees was also in vogue.

As regards the various plants diseases the *Agnipurāṇa*¹² states that in cases where the barrenness (*plalanāsa*) would be apprehended, the leaves and branches of a tree should be sprinkled over with a solution of cold water (*secayecchita vāriṇa*) saturated with *viḍaṅga*, clarified butter, pulverished *mudga*, *māsa*, barley, sesamum, *kulattha* pulse, etc. Again, for the purpose of curing a tree of all distempers (*sarveṣam viśeṣena*

vṛkṣanām rogamardanam) or a tree by way of pregnancy present, fish and meat powdered and mixed with a quantity of pulverished *vidahga* should be sprinkled over it.¹³ The *Brhatsamhitā* has also stated the varieties of plant-diseases such as paleness of leaves, arrested growth of sprouts, saplessness of branches and oozing out of sap etc. The causes, as stated in the same text¹⁴, are due the agency of cold, wind and heat. In the case of a tree losing its power of bearing fruits, milk boiled with horsegram, black-gram, green-gram, sesamum and barley¹⁵ was cooled down and sprinkled. According to another method followed for an exuberent yield of flowers and fruits in a tree, a mixture of two *āḍhakas* of the powdered dung of a sheep and goats, one *āḍhaka* of sesamum, a *prastha* of goats, a *drona* of water and one *tulā* of beef kept together for seven nights¹⁶ was sprinkled. The same manuring device has also been mentioned in the *Śukranītisāra* but without specifying the quantity of ingredients. It also emphasises the role of fish and fish washing in the nurture of plants.¹⁷

In the *Mārkaṇḍeya Purāna*¹⁸, there is a description of the evolution of tree through its different stages. For example, first a grass, then a bush, next a creeper, a climbing shrub, a reed and a tree by degrees (*tr̥ṇa-gulma-latā-valli-tvaksaratarum kramāt*).

Varāhamihira¹⁹ seems to follow the broadest classification of plant life into (1) tree (*taru, vṛkṣa, druma, pādopa*), (2) succulent shrubs (*gulma*) and (3) creepers, (*latā, valli*) in general. In continuation of the same the *Vāyupurāna*²⁰ states *vṛkṣa, gulma, latā, valli, virudha* and *tr̥ṇajāti* and these are probably the five classes under which the plant-world was known. In the chapter on the narration of the progeny of Kāśyapa in the *Vāyupurāna*²¹ it is stated that Ira had three daughters, viz., *latā, valli* and *virudha*. Of *lata* was born the *vanaspatis* (without flowers). She (again) gave birth to *vṛkṣa* (with flowers and fruits). *Valli* had her progeny in the *gulmas* and the *tr̥ṇajātis* and *virudhas* were the progeny of *virudha*. The picture of the system of classification thus follows:



Again, in the same *Purāna*²² various names of grass (*tr̥ṇa*) have been mentioned, e.g., *Kṣīracasu, vallajataru, varaṇa, lavavarṣa, añjana, avyanjana, agandha, anupralayana*, etc.

The *Matsya Purāna*²³ refers to the sweet smelling lotuses of various colours by the generic name *Jalaja* (*Jalajaiścatathā varṇairnānāvārṇaiḥ sugandhibhiḥ*). For example, some of the blooming lotuses are looked like the rising sun (*udayāditya stathā*), some like the moon and the sun (*sūryacandrānibha stathā*), some looked like bright gold (*tapaniya-suvarṇaiśca*), and some resembled hemp (*śan*) and the flower *atasi* (*atasipuspasannibha*). Some looked like the leaf of *sukapatra*, and some having

five colours (pañcavarṇa). Varāhamihira²⁴ seems to have classified flowers on the basis of colours like red, yellow, white, black, etc.

From the above, it may be concluded that the *purāṇas*, though generally represent mainly the historical or mythological aspect of religion, yet some of them contain scientific information in their different sphere and therefore are highly valuable. Thus the techniques of manuring and nourishment of various trees, that we learn from the ancient Indians, are not less significant in comparison with those that are being practised now-a-days.

REFERENCES

- ¹ *Brhatsamhitā*, Edited by Mahamahopadhyaya Sudhakar Dvivedi. Vizianagram Sanskrit Series. Vol. 10. pt. 1, 1895. Kern, H. (English translation) 1865, Ch. 54.
- ² *Ibid.*, 55, 8.
- ³ *Ibid.*, 55, 3.
- ⁴ *Agnipurāṇa*, Edited and Translated (in English) by Manmatha Nath Datta. 2 Volumes, Calcutta. 1903. Edited and Translated (in Bengali) by Panchanan Tarkaratna. Vangabasi Press. Calcutta. 1907. Ch. 282, 1.
- ⁵ *Ibid.*, 282, 8-9.
- ⁶ *Brhatsamhitā*, *Ibid.* 54, 12-13.
- ⁷ *Sukranīti*, IV. 4. 44-45.
- ⁸ *Agnipurāṇa*, 247, 30-31.
- ⁹ *Ibid.*, 282, 10-13.
- ¹⁰ *Brhat Samhitā*, 54, 2.
- ¹¹ *Brhat Samhitā*, 54, 2.
- ¹² *Agnipurāṇa*, 282, 10-13.
- ¹³ *Ibid.*
- ¹⁴ *Brhat Samhitā*, 54, 14.
- ¹⁵ *Ibid.*, 54, 15.
- ¹⁶ *Ibid.*, 54, 17-18.
- ¹⁷ *Sukranītisāra*, IV. 4.45; 52.
- ¹⁸ *Mārkaṇḍeya Purāṇa*, 15, 33.
- ¹⁹ *Brhat Samhitā*, 29, 14; 40, 7; 53, 100; 101, 105; 11, 2, 93; 13.
- ²⁰ *Vāyu Purāṇa*, 8, 157.
- ²¹ *Ibid.*, 69, 338-41.
- ²² *Ibid.*, 75, 51-52.
- ²³ *Matsya Purāṇa*, 118, 39-41.
- ²⁴ *Brhatsamhitā*, 8, 3, 46; 15, 1.