

***Bhudharakrida* (Royal Enjoyment on a Pleasure-mound) in Manasollasa**

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Abstract

Manasollasa, a Sanskrit encyclopedic work of the twelfth century by the Chalukya king, Someshvardeva, has been the source of information on domesticated animal management as well as horticulture. Bhudharakrida describes aspects of royal recreation on an artificially created “mount resort”. The description provides valuable information on laying out special woodland gardens and luxurious tree-plantations on and around the mound.

We have so far published in earlier issues of Asian Agri-History five articles on different topics based on the text of Manasollasa, a Sanskrit encyclopedic work of the twelfth century ascribed to the Chalukya king, Someshvardeva (Shrigondekar, 1961). The voluminous text consists of one hundred chapters divided equally into five sections. It should be clear even from the few articles hitherto published that they deal with a wide variety of subjects. They are knit together in a single volume because one thing that is common to them is that they all offer valuable information on topics as are of vital concern to the professional, social, and personal peace and happiness of kings and feudal lords of medieval India [and hence the name *manasa* (i.e., mind) + *ullasa* (i.e., happiness)]. Some

of those topics guide them professionally in the matter of politics for protection from enemies and for internal peace and security, others keep them informed on art, architecture, culture, and other subjects of humanities for the all-round development of the society they rule and yet others contain information useful for their personal pleasures and recreations to keep them entertained and cheerful in times of leisure. The contents of Manasollasa may, therefore, be generally studied under three categories:

1. Professional duties and responsibilities of ideal rulers before and after accession to the throne.
2. Social and domestic obligations.
3. Personal joys and pleasures in peacetime leisure.

Bhudharakrida

Bhudharakrida (Chapter 5 in Section 1) is one of the twenty chapters describing so many royal recreations which form a part of the last mentioned portion of Manasollasa.

The first member of this compound word is '*bhudhara*' which literally means 'one who holds the earth in balance' (*bhu+dhri*). In Sanskrit this epithet is applicable to mountains as they are believed to hold the earth in balance by their physical weight and also to kings who control (*dhri*) their territories (*bhu*) by maintaining law and order among the people. In the present context it can be interpreted in either sense. The chapter describes *krida* (recreation) on the 'mound' (*bhudhara*) and also *krida* (recreation) of the 'king' (*bhudhara*).

Apparently it is the royal recreation on a mount resort with which the text of Manasollasa is primarily concerned in this chapter. However, a closer scrutiny of the contents reveals that under the excuse of imparting instructions for making the mound a pleasurable picnic-spot in every respect, the author intends to put across scientific information on laying out special woodland gardens and luxurious tree-plantations on and around the mound. Thus this part of the chapter is nothing short of a manual on horticulture providing and preserving the knowledge base of this aspect of the science in the twelfth century India.

Translation

[Numbers correspond to verses]

1. King Soma (Someshvardeva) has described twenty royal recreations in the

previous section. Now he will describe hereunder the fascinating enjoyment on a pleasure-mound.

The mound

2, 3. To begin with a king should arrange to set up a beautiful garden furnished with exclusive varieties of trees all around and then at its center should 'get an artificially raised' beautiful pleasure-mound of high rising summits, equipped with a huge rock of leveled surface surrounded by various trees.

The selection of trees

4. The trees there should be the selected ones, generated with special experiments, nourished with affection that is bestowed on one's own children. They should have leaves of one tree and fruits of another.

5. Some trees should be producing abundant fruits while others yielding them round the year. Some may appear small but would be fully mature and though commendable would appear stunted.

6. Some would have very tasty fruits and others would yield fruits immediately. Special effort must be made to plant such fruit trees on the mound.

The seed

7. Seed should be procured from a fruit without any blemish, fully developed in natural course. It should be dried in shade and then be coated with cow dung for five days.

8. It should then be thoroughly smoked by the fire of *bidanga* (*Embelia ribes*) and

ghee (clarified butter). This procedure should be followed for seeds of all (most of?) the trees.

9. In case of trees having a milky sap, the method to be followed is this: Seeds should be soaked in cow's milk for ten continuous nights. After drying in shade they should be mixed with milk of a tigress and –

10. – ashes obtained by burning barley (*yava*) and wheat. Seeds should then be coated with cow dung before sowing.

Site

11. The plantation should be undertaken in areas not likely to be exposed to frost, and having availability of plenty of sweet water. They should be without anthills and stones. There should be plenty of smooth soil.

12. Sesame and *masha* (*Vigna mungo*) should be first planted there and grown up to flowering and fruiting stage. Afterwards garden should be planned around the pleasure-mound.

Plantation

13. While planting, the distance between two trees should be sixteen, eleven, eight, or fourteen *hastas* (one *hasta* = 45 cm).

14. The (above-stated) choice of the distance is advised by experts of the science of plants, for exercising it correctly according

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to the big, medium, and small trees with reference to their capacity to spread around.

15. A pit admeasuring four *hastas* with the same measure of length and width should be prepared for each tree. It should be filled with bones and dry cow dung to be burnt there.

16. Removing the ashes the pits should be filled with sand and soil. It should be sprinkled with water mixed with the flesh and marrow of goat.

17. When seeds are sown in these pits lovely trees grow from them. Alternately plants grown elsewhere should be fetched along with roots and planted there.

18. The trees to be planted first in the garden are: *ashoka* (*Saraca asoca*), *nimba* (*Azadirachta indica*), *punnaga* (*Calophyllum inophyllum*), *bakula* (*Mimusops elengi*), *nagakesara* (*Mesua ferrea*), *shirisha* (*Albizia lebeck*), and *tilaka* (*Wendlandia exserta*).

19. The king should plant these trees for happiness, health, fame, wealth, victory, and good luck.

20. Kings wishing for their welfare must never plant in the garden, trees like *palasha* (*Butea monosperma*), *kanchanara* (*Bauhinia variegata*), *chinchā* (*Tamarindus indica*), *shleshmataka* (*Cordia dichotoma* var. *wallichii*), *arjuna* (*Terminalia arjuna*), *karanja* (*Pongamia pinnata*), etc.

Watering

21. Trees should be watered on alternate days in *Hemanta* (December–January) and *Shishira* (February–March). In *Vasanta* (April–May) and *Grishma* (June–July) the wise should water them always in the morning.

22. In the rainy (August–September; *Varsha*) season and *Sharat* (October–November) season only when the ground becomes dry, experts should water the trees by making basins round the trunk.

23. If water in the basins is not completely dried up (by next day) it is an indication of ‘indigestion’ and no water should be given.

24. Instead, the stagnated water should be allowed to get absorbed by digging into the soil in the basin. Afterwards water should be sprinkled for the growth of the trees.

Protection

25. Trees should be carefully protected from mist, stormy winds, smoke, fire, and spiders.

26. Wild growth of grass, bushes, and creepers in the vicinity of the tree should be removed along with their roots for the proper growth of the tree.

27. Soil from around the tree which is burnt by lightning should be fetched and scattered

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in lines in the garden. This protects the trees from damage by frost.

28. For warding off damage from hailstorm, cooked rice mixed with curd and rock salt (*saindhava*) should be scattered on the ground surface.

General nourishment

29. Experts should burn *nisha* (*Curcuma domestica*), *bidanga* (*Embelia ribes*), *siddhartha* (*Brassica alba*), and *arjuna* (*Terminalia arjuna*) flowers along with the flesh of *rohita* (*nilgai* or blue bull?) and fish.

30. The resulting smoke enhances the yield of fruits and flowers to a great extent. It dispels *ghuna* (these are actually incisions in the wood which resemble letters, caused by an insect; secondarily, the word is used here for insects) and other insects, and gets rid of all plant disorders.

31, 32. The smoke caused by burning a mixture of *bidanga* (*Embelia ribes*), *hingu* (*Ferula assafoetida*), rock salt, *maricha* (*Piper nigrum*), *ativisha* (*Aconitum heterophyllum*), *vacha* (*Acorus calamus*), *bhallataka* (*Semecarpus anacardium*), and buffalo-horn taken in equal proportion, also kills worms and insects and gets rid of all plant disorders in the park.

33. After sowing the seed, one pitcher-full of water should be given to trees for a year. Thereafter every year one pitcher should be increased. Thus the age of the tree and the number of pitchers should be the same.

34. When both the numbers rise to twenty, the same amount of water should be given thereafter to trees carefully as prescribed in different seasons.

35, 36a. If trees are treated with smoke resulting from the burning together of *shaphari* (tiny weed fish), ghee, *siddhartha* (*Brassica alba*), and *kadali* (*Musa paradisiaca*) leaves, they produce glossy fruits of all seasons all the time.

36b, 37. Fat of parrot and deer (*kuranga*, i.e., four-horned antelope) is mixed in the decoction of *ankola* (*Alangium salviifolium*) in which ghee and honey are added. If this mixture is used for watering trees they yield fruits of all seasons and always look decorated with numerous fruits.

38. Sprinkled with milk mixed with *bidanga* (*Embelia ribes*), honey, and ghee, trees in the park will always appear beautiful with leaves, flowers, and fruits.

Special nourishment

39a. Trees with milky sap, if smoked with *jatu* (*Ferula narthex*) and *kushta* (*Saussurea lappa*), bear fruits all the year round.

39b, 40a. If creepers are sprinkled with water mixed with decoction of *kushta* (*Saussurea lappa*), cow's milk, and python-marrow, they yield fruits all round the year.

40b. (Given the same treatment as above) and also smoked with cow ghee, trees of

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the shape resembling that of scorpion (?), too, bear fruits throughout the year.

41a. Creepers sprinkled with the marrow of parrot and rat bear fruits throughout the year.

41b, 42a. If fecal matter of cocks is mixed in the liquid made of fish-flesh and if *draksha* (*Vitis vinifera*; grape) creepers are watered with the mixture, they bear plenty of very sweet fruits.

42b, 43a. *Dadimi* (*Punica granatum*) bears sweet fruits of good quality when watered with flesh and fat of deer (of *saranga* type; a spotted deer), elephant, cat, hog, and blue jay (*Coracias benghalensis*).

43b, 44a. *Narangi* (*Citrus aurantium*), when sprinkled at the root with water mixed with any kind of flesh, cow's milk, and cane jaggery, will produce abundant fruits.

44b, 45a. Mangoes bear fruits throughout when watered at the root with the decoction of *ankola* (*Alangium salviifolium*) mixed with honey and hog-marrow.

45b, 46a. Jack-fruit tree when coiled by lotus-stalks produces fruits in plenty, their thorny skin appearing as if they are the erect bristles of happiness.

46b, 47a. Trees of *kapittha* (*Limonia acidissima*) and *shri* (*Nelumbo nucifera*) bear sweet fruits in abundance when nourished by water mixed with honey, ghee, jaggery, milk, and flesh.

Experiments for miraculous results

47b–49a. *Amalaki* (*Emblica officinalis*) yields plenty of sweet fruits if prior to the appearance of flowers scratches are made over it by *kumara* (?) (a young boy; name of several plants according to Monier) and if the mire (paste?) of *japa* (*Hibiscus rosasinensis*), sesame powder, honey, and ghee is filled into the cuts.

49b, 50a. *Rambha* (plantain tree) produces abundant fruits when pierced at the place from where fruits emerge, with a needle heated in the fire of dry dung of pig and horse.

50b–52a. *Narikela* (coconut) tree, which has never borne fruits before, also starts producing big and sweet fruits if smeared in the night with the paste of *bidanga* (*Embelia ribes*), *masha* (*Vigna mungo*), *madhuka* (*Madhuca indica*), *mura* (*Selinum candollei*) – all cool by nature, pounded together and mixed with wine and salt.

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[The text is faulty.]

52b–54a. *Badari* (*Ziziphus mauritiana*) bears sweet and fragrant big fruits immediately if sprinkled at the root with water mixed with honey and powder of sesame and *yashtimadhu* (*Glycyrrhiza glabra*) taken in equal proportion.

[The text is faulty.]

54b, 55a. *Rambha* (plantain tree) yields fleshy fruits when pierced at the base of the stalk of fruits and at the bottom with gold stick heated in the fire of ivory powder.

55a–57a. *Kadali* (*Musa paradisiaca*) becomes a treasure of huge fruits of the size of a tusker's tusk, when it is treated with the putrid matter from the teeth of elephant, hog, and camel, and elephant rut kept at the root and covered by fresh soil.

[The text is faulty.]

57b, 58a. *Bijapura* (*Citrus medica*) bears big fruits when sprinkled with water mixed with oil-cake, wine, marrow (?), and flesh of fish and rat.

58b, 59a. *Amra* (*Mangifera indica*; an ordinary mango tree) turns into *sahakara* (a special variety of mango yielding aromatic fruits) and *sahakara* produces extra fragrant fruits, if they are sprinkled with the decoction made out of *rajajambu* (*Eugenia jambos*) leaves, *ushira* (*Vetiveria zizanioides*) (a fragrant species of grass – *vala* in Marathi or *khas* in Hindi) and *musta* (*Cyperus rotundus*).

59b, 60. *Amra* (*Mangifera indica*) turns into *sahakara* type, yielding very aromatic

fruits when watered with the decoction prepared from the fat of horse, elephant, deer (*saranga* type; a spotted deer), jackal, and bull mixed with milk.

61. The same treatment with the addition of *mura* (*Selinum candollei*), given to all flowering plants, intensifies the fragrance of flowers to a great deal.

62, 63a. The same treatment with the addition of *kubja-shonita* (*Achyranthes aspera* inflorescence?) and blood, given to *naga* (*Mesua ferrea*), *punnaga* (*Calopyllum inophyllum*), and *kesara* (*Mammea longifolia*) makes them full of abundant fragrant flowers to such an extent that the whole atmosphere will be filled with the resonance of the humming of black bees hovering around them.

63b, 64. *Ashoka* (*Saraca asoca*) blossoms forth immediately when struck gently by a young lady with her foot adorned with anklets; *kesara* (*Mammea longifolia*), when she drenches it with wine spit out from her mouth; and *tilaka* (*Wendlandia exserta*) when she casts an adoring glance at it.

The smoke caused by burning a mixture of bidanga (Embelia ribes), hingu (Ferula assafoetida), rock salt, maricha (Piper nigrum), ativisha (Aconitum heterophyllum), vacha (Acorus calamus), bhallataka (Semecarpus anacardium), and buffalo-horn taken in equal proportion, also kills worms and insects and gets rid of all plant disorders in the park.

65, 66a. *Punnaga* (*Calopyllum inophyllum*) and *nagachampaka* (*Mesua ferrea*) blossom, soon after they are hit by the flower ornament worn round the ear by an amorous maiden and so does *tilaka* (*Wendlandia exserta*) tree blossom fully adorned with honey drops when touched by the particles of sandal paste applied by her to her breasts.

66b, 67a. *Shyama* (*Ichnocarpus frutescens*) creeper becomes 'pushpavati' (mature blossoms) when she is 'married' to a nearby tree after the ceremony of 'tying the marriage-thread round the neck' is ritually performed (It is implied that the creeper would be made to grow around the tree trunk – authors).

67b, 68a. *Karavira* (*Nerium oleander*), *kurantaka* (*Barleria prionitis*), and *madhavi* (*Jasminum arborescens*; a creeper) yield beautiful flowers throughout the year if sprinkled with wine in the evening.

68b, 69a. *Mallika* (*Jasminum sambac*) produces plenty of flowers attracting swarms of bees, if burnt (warmed?) with the heat of fire made from the stalks when it is 'nervous' due to cold.

69b, 70a. *Japa* (*Hibiscus rosa-sinensis*) bearing red flowers, yields white flowers bright like the moon-rays, if sprinkled at the root with milk.

70b, 71a. *Karnikara* (*Pterospermum acerifolium*), *japa* (*Hibiscus rosa-sinensis*), *ashoka* (*Saraca asoca*), *bana* (*Barleria strigosa*), and *amrataka* (*Spondias pinnata*) trees in the park also produce white flowers with the same device.

71b–73a. All flowering trees including those yielding flowers with no fragrance start producing fragrant flowers within a month when manured with soil from around *amra* (*Mangifera indica*) mixed with heaps of (fragrant) flowers every Saturday and Tuesday, and sprinkled with water every alternate day with water mixed with pounded sandal-wood.

[The text is faulty.]

73b–75a. If lumps of soil in plenty, scented with fragrant flowers of any tree are filled at the roots of other trees and if those other trees are sprinkled with water mixing in it the powder of *gandhapatra* (leaves of *Aegle marmelos* or *Limonia acidissima*, *mura* (*Selinum candollei*), *musta* (*Cyperus rotundus*), *tagara* (*Valeriana jatamansi*), and *ushira* (*Vetiveria zizanioides*), they start emitting fragrance through their blossoms.

75b, 76a. Two creepers (one yielding white and the other red flowers?), besmeared with honey and ghee when very young and tied together with thread,

Amra (*Mangifera indica*; an ordinary mango tree) turns into sahakara (a special variety of mango yielding aromatic fruits) and sahakara produces extra fragrant fruits, if they are sprinkled with the decoction made out of rajajambu (*Eugenia jambos*) leaves, ushira (*Vetiveria zizanioides*) (a fragrant species of grass – vala in Marathi or khas in Hindi) and musta (*Cyperus rotundus*).

later get merged into a single creeper that produces clusters of blossom both red and white.

76b, 77a. Creeper besmeared with honey produces flowers of deep red color and the one besmeared with ghee yields beautiful white flowers.

77b–79a. If bulbs of day-lotus and night-lotus are filled with honey, ghee, *kalaya* (*Pisum sativum*) flour, and mud, together they produce on a single stalk two flowers, one being day-lotus and the other, night-lotus. A miraculous sight in the lotus-lake!

79b, 80a. *Champaka* (*Michelia champaca*) produces *kesara* (*Mesua ferrea*) flowers if sprinkled with the mixture of milk, fat of water-hog, *kunati* (coriander?), and *haritala* (*Cynodon dactylon*).

80b, 81a. The blossom of *madhuka* (*Madhuca indica*) becomes of a heated (gold) color if sprinkled with water mixed with the powder of *yashti* (*Glycyrrhiza glabra*) and *kulattha* (*Dolichos uniflorus*) stirred in honey.

81b, 82a. Seed of a plant sprouts at once if it is soaked in human flesh and *ankola* (*Alangium salviifolium*) oil for seven days and sown in soil exposed to hailstorm.

82b, 83a. Seed of pomegranate grows (sprouts) at once and produces fruits reliably if it is sprinkled with cock's blood for twenty-one days.

83b, 84a. Seed of any tree whatsoever will produce flowers and fruits quickly, if it is treated with milk mixed with fish and marrow and flesh of hog.

84b–86a. Seed of a mango tree extracted from a ripe fruit at once grows and bears blossom and fruits if continuously for seven days it is kept in the marrow of fish and hog, oil, ghee, and milk, and then combined with ashes left after burning *brihati* (*Solanum indicum*) and sesame-stalks.

86b, 87a. *Rambha* (plantain tree) produces fruits of admirable size when watered with the mixture of human flesh, marrow, and blood combined with ivory powder.

87b, 88a. *Kadali* (*Musa paradisiaca*; banana) plant produces excellent pomegranate fruits when watered with decoction of *kankola* (*Piper cubeba*) and blood and fat of hog.

88b–90a. A capsule made of flowers of *yashti* (*Glycyrrhiza glabra*), *madhuka* (*Madhuca indica*), and *shvetakushta* (?) along with honey and *nishpava* (*Lablab purpureus*) should be placed at the scratched roots of a fruit-tree. Whichever tree is treated by an expert with this device yields very sweet seedless fruits.

90b–91. If dog's flesh with she-goat-milk wetted with *ankola* (*Alangium salviifolium*) decoction is placed at the root of *sahakara* (scented mango), it is transformed into a shape of *draksha* (*Vitis vinifera*) creeper and yields fruits throughout the year.

92–94a. A branch of tree fully developed (or yielding fruits) should be wrapped at the joint seven times with the skin from the dewlap of a tamed powerful ox of black color. When it is thoroughly united with this skin after this kind of binding it produces

fruits which remain always green and yet fully ripe throughout the year and this arouses, without fail, a feeling of marvel in the minds of all.

94b, 95a. Branch of any tree produces unripe fruits (fruits which never ripen) when tied at the joint with skin of *krikati* (?) combined with that of a goat.

[The sense is not clear.]

95b–97a. Seed of *vartaka* (*Solanum melongena*) besmeared with honey and ghee should be inserted carefully inside a fresh *kushmanda* (*Benincasa hispida*) fruit and extracted after a fortnight. When it is sown it produces a creeper with leaves of *kushmanda* but the fruits it bears are those of *vartaka*. It is indeed a wonder!

97b, 98. *Chincha* (*Tamarindus indica*) turns into a creeper adorned with very sweet fruits when sprinkled with water mixed with the powder of *yava* (barley), *masha* (*Vigna mungo*), *tila* (sesame), and *vrihi* (*Oryza sativa*) and then thoroughly smoked with *nisha* (*Curcuma domestica*).

[Some words in the text are not intelligible.]

99a. Thus wonder-experiments on trees are described so far.

99b. It is in the midst of a garden like this that kings should situate the beautiful recreation mound.

100–126. [These verses contain matter which is not related to horticulture. A summary is given below.]

- Manufacturing of artificial trees on the mound with gold, silver, and precious stones.

- Artificial pond with swans made of conches and lotuses made of gold.
- Rivers of sapphire, sandy banks of small pearls, brooks of saffron-water.
- Inviting famous and renowned persons, princes, kings, and scholars.
- King enters the scene with all his retinue riding on a beautiful, decorated horse.
- Beautiful damsels should accompany him.
- Delight the guests and the young ladies by showing them the miraculous trees in the garden.
- Ascend the mound along with the guests.
- Show them the artificial trees and other things.
- Offer gifts to guests and take leave of them.
- Spend time in the company of charming maidens in various sports.
- Descending from the mound by dark and return to the capital mounting an excellent elephant.
- Someshvara, the supreme monarch, described this enjoyment on the recreation mound.

Discussion

Manasollasa: a rare source of information in Sanskrit on recreation in ancient India

Krida or recreation of any kind is sought after by man for entertainment and is therefore, a basic and natural human requirement. It must have formed an essential part of all ancient human civilizations right from the days of their infancy. Sports and other recreational

activities of the Greek and the Roman civilizations are documented from a very ancient period. They form an important part of their history and social life. Many branches of human knowledge and culture have their origin in religion or religious festivals as is the case with the Greek Olympian sports.

The ancient literary sources of India, however, do not appear to have recorded such sports or other recreational features of their religious festivals as avidly as they have done many other aspects of the ancient culture.

Hunting was initially a means of subsistence but must have been pursued by man as a recreation from very early times. But beyond certain words in the Vedic literature (earliest reference – Rigveda, c. 8000 BC), we do not have any information on hunting as a recreation in earlier Sanskrit texts. Words like '*mriganyu*' (expert in hunting wild animals) (Rv. X-40-4), '*varahayu*' (eager after boars) (Rv. X-86-4), and '*shvaghni*' (a gamester, huntsman) (Rv. VIII-45-38 and many more places in Rv.) in the Vedic language are only suggestive (Sontakke and Kashikar, 1933–51).

Some sort of races too, must have been in existence from the Vedic period as is indicated by words like '*aji*', a running match (Rv. I-116-15, or Rv. IV-24-8, racecourse); '*karshman*' [Rv. I-116-17, a goal of a racecourse, a line like a furrow. In his commentary, Sayana (14th century AD) explains it as a piece of log indicating the end of a race, i.e., '*ajidhavana*' and is quite fitting to the context] and so on. Horse races

or chariot races too, could be prevalent [*'khelasya ajau'* on the battlefield (ground? of sports?) (Rv. I-116-15)] since the Vedic times as is only to be conjectured from such phrases and words.

However, the most unambiguous reference in Rigveda is to the game of dice. This Sukta from the tenth book (Rv. X-34) is quite well-known for the realistically convincing manner in which a gambler, who has lost everything in the game, speaks out his mind in a regretful confession. But there again, the factual details of the game are only incidentally mentioned. That the dice numbered three or fifty (?) and were made of wood, that they were of tawny color, that there was a fixed place where the game was played, and that the rules and methods of recovering dues from the loser in the game were ruthless, are some details one can gather from the hymn. But the way the game was actually played, the number of participants, the stakes and the rules thereof, the place where it used to be played, are other important aspects not documented. [*'Mricchakatika'* – a little clay-cart – a famous play of that name by Shudraka (1st century BC) in the classical period, supplies some more interesting details of the game (Raddi Rangacharya and Paranjape, 1909).]

Many words in classical Sanskrit, too, like *'krida-shaila'* (the recreation mount), *krida-kanana* (pleasure-grove), *krida-griha* (recreation-house), *krida-mriga* (animal tamed for recreation), *krida-ratha* (a chariot for pleasure-drive), and *krida-saras* (pleasure-pond), also undoubtedly affirm the existence of recreations on a large scale as an essential part of the social life in

ancient India. But those are only to be inferred.

Many examples can be cited from earlier classical literature also where the hero (usually a king) is stated to have started on a hunting expedition just for the fun of it. Abhijnana Shakuntala, the famous play of Kalidasa (4th century AD) based on an account in the Mahabharata (c. 3000 BC) starts with the entry of Dushyanta, the hero, chasing a deer in his pleasure-hunting (Gajendragadkar, 1951). It is followed by a beautiful and entertaining description of his hunting recreation. But the systematic documentation of hunting as a recreational activity is missing in the earlier sources of Sanskrit literature.

Besides religion, royal interest, encouragement, and support can be yet another motivation for the growth of many branches of knowledge and culture.

Several texts in Sanskrit related to the professional lives of ancient Indian kings are handed down by tradition. Authoritative ancient texts like Arthashastra of Kautilya (4th century BC), Dharmashastra elucidated in several Smritis like those of Manu (c. 200 BC), Mahabharata (c. 3000 BC), Ramayana (c. 5000 BC), Puranas (200 BC to 750 AD) and so on contain ample and systematized information on the subject. But what one gathers from these texts is that Indian kings are advised to lead the most disciplined lifestyle. All the texts unanimously advise kings to conquer their “internal enemies” first; desire for amorous pleasures, anger, greed, conceit, jealousy, and infatuation being those six adversaries. The king’s first and foremost duty is to make the people happy. The

Sanskrit word 'raja' is derived from the root 'ranj', to please (people) (*raja prakritiranjana*). The contents of the first two chapters of Manasollasa are in keeping with this traditional image of an ideal king. They bring out persuasively the heavy responsibilities and the challenging duties of the king and also to a great extent an austere lifestyle that the nature of his work demands.

Granted that the plays and poems in early classical Sanskrit literature often depict the lighter aspect of the lives of kings and other members of the royal families, texts focused primarily on systematic information about the leisure activities of kings and wealthy people of ancient India are conspicuously missing.

Manasollasa fills the lacuna

Thus on the matter of personal joys and recreations of kings the information available in Sanskrit is indeed scanty. Fortunately a large portion of Manasollasa (Sections III, IV, and V) fills this lacuna. It describes the various ways in which kings could enjoy their wealth and other resources for their comforts and luxuries, the pleasures of prosperity and power, the innumerable ways of amusements and recreations to keep them entertained. They throw light on the lighter aspect of their lives. They can give us some idea about how Indian kings, chieftains of principalities, nobles, and other wealthy people in society used to pass their leisure time. Manasollasa devotes as many as three out of its five sections (and sixty out of its hundred chapters) to this topic. This is a noteworthy feature of the text which makes it a valuable and rare source of information on this aspect of the culture of medieval India.

Source of knowledge and information

Manasollasa is a source of knowledge and information. The socio-political and cultural importance of the text cannot undermine its significance as an invaluable source of knowledge and information on a wide range of subjects. Even the portion dealing with the personal recreations and pleasures of the kings is no exception to this as is validated by the present chapter on '*Bhudharakrida*'.

The discussions on the subjects of personal interest to the medieval kings in the text are often purposefully diverted to topics of scientific and universal interests. Thus while the subject of independent divisions of army comprising of elephants and horses forms a part of the formal and traditional science of polity, the details provided in the text on the characteristic features, physical and behavioral details, sports connected with the animals for royal entertainment, etc. are matters of general interest. Similarly while royal recreation with fishes or dogs is the main subject of the chapters, details of their habitats and physical characteristics is a purposeful dilation to provide useful scientific information on the animals. These parenthetical digressions widen the scope and extent of the text, making it not just a handbook of information for the medieval kings of India but transforming it into a valid source of knowledge and information on a large variety of subjects – an encyclopedia.

Bhudharakrida, the present chapter, too, discusses royal recreation on a pleasure-mound but dilates on the topic of horticulture.

Planting trees and construction of public and woodland gardens are always stated to be the responsibility of the ruler in ancient and medieval India. In fact it was considered his duty towards the people. Even as a means of personal enjoyment, it is rated as the most essential asset for kings (Vrikshayurveda, verses 1 and 2) (Sadhale, 1996).

Someshvardeva thought of a “pleasure-mound” for royal enjoyment. What this pleasure-mound meant was to establish a woodland garden on an artificially raised mound, apparently large enough to be a hillock. Thus the royal party could go to this high-raise garden for relaxation and enjoyment. Woodland gardening has been popular with all old civilizations. However, laying a garden on an artificially large mound is a unique concept, not done anywhere else in the ancient world.

Since the text is on woodland gardening, contents are similar to those of Chavundaraya’s Lokopakara (1025 AD) (Ayangarya, 2006) and Surapala’s Vrikshayurveda (c. 1000 AD) (Sadhale, 1996). The description of treatment of seeds, planting distance, and digging and treating pits is almost the same as in Lokopakara and Vrikshayurveda.

One specific step in the fire-treatment of pits is noteworthy. All the texts specify

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removal of ash from the pits. Gardeners in those times must have observed adverse effects of wood ash, which while containing potassium and other useful minerals, contains traces of heavy metals (lead, cadmium, nickel, chromium) that can be toxic. Also the ash can create problem by raising pH of the soil to alkaline range.

Other topics discussed in the text include watering, plant protection, general and special nourishments, unique experiments for producing wonder plants and so on. They are treated very methodically as in the earlier texts on horticulture. Evidently it is composed by one of the experts on the subject. If King Someshvardeva is stated to be the author, it might only be an honorific ascription.

Choice of trees. Special trees reared with affection (special care) are chosen for plantation to enhance the king’s enjoyment (verses 4–6). The latter portion of the text provides instructions for inventing such wonder varieties of plants.

Manasollasa makes a clear distinction between desirable and undesirable plants. The former are stated to bring happiness, health, fame, wealth, victory, and good luck for the king. The health factor is perhaps the only one which can be shown to have some rationalistic explanation. The latter, which the king is advised never to plant in the garden are not favorable for the welfare of the king (verse 20). Superstition apart, though these trees appear attractive during the flowering season, they appear unaesthetic in other seasons. This being a pleasure-garden for the royal recreation special attention is paid to maintain aesthetic

appearance of the garden throughout the year. Perhaps this is the reason for not favoring these trees in a mound-garden (verse 20). In other texts on horticulture a distinction is made between desirable and undesirable trees only in the context of laying gardens near residence and there exists rational explanation for the same.

Shastras like Ayurveda believe that every single plant in nature is desirable as it has some medicinal use or other (*nasti mulam anaushadham*); however, in the present context medicinal use of plants is of secondary importance.

In all, the text of this chapter refers more than twenty-five varieties of trees, creepers, etc. The chapter on *Vanakrida* that follows *Bhudharakrida* mentions a large number of plant species that are found in forests. *Vanakrida* (Royal recreation in a woodland garden) is yet another chapter of Manasollasa with contents almost similar to those of *Bhudharakrida*. Except listing the varieties of trees to be planted in the garden, it does not give any information about the details of horticulture. The trees mentioned in this chapter are listed in Table 1.

Watering. Instructions on watering trees are season-based. The recommendations made are different and better than those made in other texts such as Lokopakara, Vrikshayurveda, etc. (verses 21–23, 33, 34).

However, laying a garden on an artificially large mound is a unique concept, not done anywhere else in the ancient world.

Although for selecting the site for plantation availability of plenty of sweet water is generally mentioned as a condition (verse 11), specific details regarding water resources are not discussed here. Water-reservoirs, wells, and groundwater sources are common topics of discussion in other texts on horticulture. As rainfed lands are reserved for grain crops on priority basis, horticulture depended primarily on other water resources. Especially for plantations of very specially grown varieties on hilltop as described in this text, guaranteed water-supply throughout the year would be the first requirement.

As a newly planted tree grows, the quantity of water needed for its expansion also increases proportionately. This is stated in an interesting manner by connecting the age of the plant with the number of water-pitchers required (verses 33, 34).

Protection from natural and man-made hazards. The threats for trees anticipated here are the common ones which are external in nature like stormy winds, frost, lightning, weeds, fire, smoke and so on. It must be noted that the internal disorders of plants are not discussed here. That is a special branch of ancient Indian horticulture known as Vrikshayurveda and Surapala and others have discussed it in great detail. Smoking trees with certain medicinal herbs is recommended for protection against worms and insects (verse 30).

There is an interesting verse (verse 27) wherein a recommendation is made to collect soil from around trees burnt by lightning and scatter it in lines in the garden, to protect trees from frost damage. When a tree is struck by

Table 1. Trees mentioned in the chapter Vanakrida of Manosollasa.

Sanskrit name	Devanagari	Latin name
<i>Amlaka</i>	आमलक	<i>Emblica officinalis</i>
<i>Amra</i>	आम्र	<i>Mangifera indica</i>
<i>Bijapura</i>	बीजपूर	<i>Citrus medica</i>
<i>Champaka</i>	चंपक	<i>Michelia champaca</i>
<i>Chuta</i>	चूत	<i>Mangifera indica</i>
<i>Dadima</i>	दाडिम	<i>Punica granatum</i>
<i>Damana</i>	दमन	<i>Artemisia sieversiana</i>
<i>Draksha</i>	द्राक्षा	<i>Vitis vinifera</i>
<i>Haridra</i>	हरिद्रा	<i>Curcuma domestica</i>
<i>Hintala</i>	हिंताल	<i>Phoenix paludosa</i>
<i>Jambir</i>	जंबीर	<i>Citrus limon</i>
<i>Jambu</i>	जम्बु	<i>Syzygium cumini</i>
<i>Kadali</i>	कदली	<i>Musa paradisiaca</i>
<i>Kantala</i>	कांताल	<i>Agave cantula</i>
<i>Kapittha</i>	कपित्थ	<i>Limonia acidissima</i>
<i>Karamarda</i>	करमर्द	<i>Carissa carandas</i>
<i>Karikarnaka (Hastikarna)</i>	करिकर्णक/हस्तिकर्ण	<i>Alocasia macrorrhiza</i>
<i>Karnikara</i>	कर्णिकार	<i>Pterospermum acerifolium</i>
<i>Karvira</i>	करवीर	<i>Nerium oleander</i>
<i>Kesara</i>	केसर	<i>Mammea longifolia</i>
<i>Ketaki</i>	केतकी	<i>Pandanus odoratissimus</i>
<i>Kharjuri</i>	खर्जूरी	<i>Phoenix dactylifera</i>
<i>Kramuka</i>	क़मुक	<i>Areca catechu</i>
<i>Kshirika</i>	क्षीरिका	<i>Manilkara hexandra</i>
<i>Kurantaka</i>	कुरण्टक	<i>Barleria prionitis</i>
<i>Lakucha</i>	लकुच	<i>Artocarpus lakoocha</i>
<i>Lavanga</i>	लवंग	<i>Syzygium aromaticum</i>
<i>Madhavi</i>	माधवी	<i>Hiptage benghalensis</i>
<i>Mallika</i>	मल्लिका	<i>Jasminum sambac</i>
<i>Maruka (Marubaka?)</i>	मरुक	<i>Ocimum basilicum</i>
<i>Muchukunda</i>	मुचुकुंद	<i>Pterospermum canescens</i>
<i>Nagakesara</i>	नागकेसर	<i>Mesua ferrea</i>
<i>Naranga</i>	नारंग	<i>Citrus aurantium</i>
<i>Narikela</i>	नारिकेल	<i>Cocos nucifera</i>
<i>Neepa</i>	नीप	<i>Anthocephalus cadamba</i>
<i>Nivara</i>	नीवार	<i>Oryza sativa</i>
<i>Panasa</i>	पनस	<i>Artocarpus heterophyllus</i>
<i>Patala</i>	पाटल	<i>Stereospermum personatum</i>
<i>Punnaga</i>	पुन्नाग	<i>Calophyllum inophyllum</i>

continued

Table 1. *continued*

Sanskrit name	Devanagari	Latin name
<i>Raktashoka</i>	रक्ताशोक	<i>Saraca asoca</i> (red flowered)
<i>Sarala</i>	सरल	<i>Pinus roxburghii</i>
<i>Sarana</i>	सारण	<i>Paederia foetida</i>
<i>Shatapatra</i>	शतपत्र	<i>Rosa centifolia</i>
<i>Shringaver (Shunti)</i>	शृंगवेर/शुण्ठी	<i>Zingiber officinale</i>
<i>Tagara</i>	तगर	<i>Tabernaemontana divaricata</i>
<i>Talagulma</i>	तालगुल्म	<i>Borassus flabellifer</i>
<i>Tilaka</i>	तिलक	<i>Wendlandia exserta</i>
<i>Utpala</i>	उत्पल	<i>Nymphaea nouchali</i>

lightning, very high voltage produces fulgurites (often tubular vitrified crusts produced by the fusion of sand or rock, which crumble later). A study on the underground fire after lightning strike revealed that the temperature after one week at 20 cm depth was 516.5°C and at 45 cm depth, the highest temperature was 326°C (Zanon *et al.*, 2008). Thus the soil will undergo physical and chemical changes. It was the belief of those times that lightning-struck soil had special properties to resist cooling of soil when night temperatures drop. We cannot deny the correctness of the belief unless validation research is done.

Incidentally, the Mughal king Jahangir of India records in his memoirs an event of lightning strike on an open ground near Jalandhar in Punjab in April 1621. He documents finding at considerable depth red hot “rods”, which we now call “fulgurites” (Nene, 1998). The occurrence of this event has been ignored in historical records on lightning strike made by the Western media.

Nourishment. Several recipes are recommended in the text for extra

nourishment common to all the plants (verses 35–38). Special guidelines for the growth and particular results of individual plants are also provided (verses 39–46).

While the text does not specifically mention “*kunapajala*”, which is the liquid manure based on fermented animal products, there are many recommendations for nourishment as well as for producing novelties in trees that include flesh (fermented/non-fermented) of a wide variety of animals. Ultimately application of flesh would result in a kind of *kunapajala* in situ.

Experiments for botanical wonders.

More than half of the total verses in the text refer to “experiments for miraculous results”. Validation research needs to be undertaken, especially on the contents of verses 49b, 50a; 54b, 55a; 57b, 58a; 67b, 68a; 69b, 70a; 70b, 71a; 75b, 76a; and 95b–97a.

All the texts on horticulture have discussed this topic of subjecting the trees to various treatments and experiments for inventing exclusive varieties and miraculous results. The present text is no exception (verses 47–

98). Obviously there was a demand for such wonder-varieties of trees for laying out special gardens and horticulturists must have developed skills and techniques to produce these by pursuing the matter not only as a hobby but also as serious research projects.

Horticulture and Ayurveda

Horticulture in ancient India appears to have developed in close association with Ayurveda, the ancient Indian science of medicine. Thus in treating seeds, curing internal and external disorders of trees, in providing general and special nourishments, in experiments for producing novel varieties of plants, the material used and recommended is mostly the medicinal plants. Ayurveda is a well-developed branch of science and properties of these medicinal plants have been scientifically studied and documented. Their connection with human health and disorders is scientifically established. It is their connection with plants which needs to be studied scientifically in further detail.

An attempt in this direction was made in the case of plant diseases and Ayurveda

While the text does not specifically mention “kunapajala”, which is the liquid manure based on fermented animal products, there are many recommendations for nourishment as well as for producing novelties in trees that include flesh (fermented/non-fermented) of a wide variety of animals. Ultimately application of flesh would result in a kind of kunapajala in situ.

(Sadhale and Dave, 2006). A similar investigation in areas of nourishment and experiments for wonder-results can give at least a theoretical lead for further research in those areas.

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