

Ancient Sanskrit Literature relating to Agriculture

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Introduction

Sanskrit is acknowledged as one of the oldest languages in existence. It boasts a profound literary heritage and an exquisite vocabulary. This may explain why Dandin referred to it as the language of the Gods or a Divine language.

Numerous ancient Sanskrit texts encompass a wealth of knowledge pertaining to agricultural science. Manuscripts such as the Vedas, Krishi Parashara, and Kautilya's Arthashastra contain invaluable insights into various aspects of agriculture. Topics covered in these ethical writings include seed selection, land preparation, water management and irrigation, pest control, storage, and crop rotation. Agriculture has historically been the primary source of sustenance for the people of India and serves as the cornerstone of the Indian economy. References to agriculture are prevalent in various texts, starting with the Rigveda, underscoring its importance. It is therefore surprising that only a few comprehensive treatises exist on this subject. Krishi-Parashara, attributed to the sage Parasara, stands out as the only known Sanskrit literature exclusively dedicated to agricultural science. The ancient Sanskrit texts hold a treasure trove of agricultural knowledge that can greatly benefit contemporary practices.

The Vedic texts serve as a testament to the intellectual endeavors of ancient sages. India is fundamentally an agrarian society, with its people having excelled in agricultural practices, significantly contributing to the economy through this sector. Agriculture stands as the foundational element in the advancement of civilization.

The term agriculture originates from the Latin word "*ager, agr*," which translates to field. It encompasses both the science and art of soil cultivation, crop sowing and harvesting, as well as livestock management. It represents the practical techniques employed to enhance land productivity.

The notion of agriculture as presented in the Vedas

The Vedas, recognized as the most ancient texts in human history, extensively address the subject of agriculture. The Vedic term "*Krisi*" refers to the act of ploughing and is synonymous with agriculture. In Vedic times, religion and farming were closely intertwined. The initial educators in agriculture were

the priests, who guided the community in these practices. The rural populace can be broadly categorized into two groups: those engaged solely in land cultivation and those involved in pastoral activities, where the management of livestock and crops replaced the hunter-gatherer lifestyle with a nomadic or semi-sedentary approach. Among the 10,462 hymns in the Rigveda, 24 specifically reference agriculture, while the four Vedas collectively mention over 75 plant species. The Satapatha Brahmana identifies more than 25 species, and the Charaka Samhita, an Ayurvedic text from around 300 BC, lists over 320 plants. The Vedas provide guidance on soil cultivation. An individual who pursues agriculture as a career is referred to as a farmer. The role of the farmer is not to be underestimated; it commands respect and holds significant importance within society.

Agricultural lands are termed "*Ksetra*," while fertile lands are known as "*urvara*." The farmer is regarded as the sovereign of the field, and those who depend on his produce regard him with reverence. The Atharva Veda describes the land as our mother, with the farmer as her son. According to Yajurveda 9.22 and 4.10 Sukta, agriculture is esteemed as the highest of all professions. This paper aims to illuminate various aspects of agricultural practices during the Vedic period.

Soil, Land and village settlement

The primary requirement for successful farming is fertile soil. Throughout various historical periods, cultivation areas have been associated with fertile soils such as mountain clay, alluvial soils found in river plains, and black cotton soil, particularly in the Deccan trap region adjacent to parts of central and western India. Farmers during the Rigvedic era demonstrated a keen understanding of different soil types. Soil preparation involved repeated ploughing, as noted in (RV 1.23.15), followed by soaking the soil with water. The populace possessed a solid understanding of land fertility, seed selection and treatment, appropriate sowing and harvesting seasons, crop rotation, manuring, and other agricultural practices.

Manure and manuring

The Vedic people held two primary desires: the sweetness of atmospheric water and the sweetness of

the soil. In this context, sweetness refers to the fertility of the soil and the availability of quality water resources.

Plant fertility is influenced by three key factors:

- a) Soil conservation,
- b) Replenishment of soil nutrients, and
- c) Application of manure to individual plants.

Among these factors, addressing soil exhaustion was likely regarded as the most effective method for restoring soil fertility. To achieve this, two specific measures were implemented.

Irrigation system

Two types of irrigation were known to the vedic people.

Natural Irrigation

Rainwater: Vedic agriculture fundamentally relied on rain as its primary source of sustenance. The Rigveda features numerous mantras that extol the virtues of rain for the production of "*Anna*," or food grains, as well as for the enhancement of livestock populations. The Rigveda also delineates the specific use of rainwater for irrigating arable land. It is noted that small streams formed from rainwater, which lacked a continuous flow, necessitating the use of buckets (*Droni*) for irrigation purposes.

River Water: Two significant river systems that facilitated irrigation were the Sindhu and its seven tributaries, along with the Saraswathi. The *Sindhu*, a snow-fed river originating from the northwestern slopes of Mount Kailasa, provided a reliable source of perennial water. Another stream of the Sindhu emerged from a lake located to the northeast of Kailasa. Both rivers flowed in a northwesterly direction before taking a southwesterly course into the Arabian Sea. The Rigveda describes the Sindhu and its tributaries as traversing both easterly and westerly routes, with the easterly route encompassing the rivers of Punjab and the westerly route including those from Kabul. The Sindhu is characterized as flowing through fertile regions abundant in grain, referred to as *Vajinivati*, the embodiment of sustenance. These descriptions underscore the river's significant fertility potential. The seven rivers of the Sindhu, as they descend, enrich the fields, leading the Veda to proclaim an "Increase in Anna" (food grains).

Saraswathi: The Saraswathi, a non-perennial river fed by rainfall, originates in the Siwalik range. Geomorphological studies indicate that it has altered its course five times throughout its journey to the Arabian Sea. The river's water sources include rainfall

and drainage from perennial rivers such as the Indus, Sutlej, and Yamuna. Consequently, the northwesterly shift of the Sutlej has caused the Saraswathi to flow underground at Vinasana.

Water Management, vedic suktas and deities concerning agriculture

In one Mantra of the Rigveda, Varuna is requested to make paths for the flowing of river water over the field. Water played a crucial role in the evolution of living organism. As the biochemical systems of organisms are all adapted to function in aqueous medium, water has become one of the vital resources for all kinds of life on this planet, indeed, the communities of life process and living economics are hinged around this vital resource. Earth and sky are referred to as the mother and father providing food and water to the entire biotic community in Rigveda. As vedic people were successful in agriculture, they knew careful planning for all their agricultural activities including utilizing the nearby water resources. Green pastures for the livestock and crops from the agricultural fields were all possible because of water from rains and the rivers get water from rains or snow.

Vedic reference can be made of sources of water and waterbodies (from the smallest to the greatest). Homage is paid to the Gods or spirits dwelling in the water. "*Prajanya*" a subordinate deity to Indra in the vedas, is prayed for bringing rain. It appears that Parjanya is the water bearer. For obtaining abundant rainfall, the vedic seers here have addresses the concerned deities of rain to pour down water. There are prayers in the form of hymns addressed to the Gods for granting agricultural of food prosperity and plenty of water. Vedic people knew that good rainfall was needed for a good harvest. Many sacrifices have been prescribed and performed to propitiate the rain-god. Rigvedic seer prays moon for prosperous cultivation through good rain. Cattle and man toil hard to grow barley of rain. Ksetratrapati suktam of Rigveda in praise of Ksetrapati- the lords of fields, suna, sira, sita along with pushan and Prajanya. Suma and sira are the deities representing the plough and sita is goddess of furrow. In the vedas, there are many suktas that are suggestive of different aspects of agriculture and production of food "*Annam*"

Ceremonies concerning agriculture and crop protection

Numerous ceremonies are outlined in the Vedic Kalpasutras. The Vedic mantras are utilized in various rituals, many of which pertain to agricultural activities. Some notable ceremonies include Halabhiyoga, which involves the yoking of the

plough; Sita-yajna, a sacrifice associated with the furrow; Khalayajna, a sacrifice conducted on the threshing floor; and Shunasiriya, which entails the gifting of oxen along with the plough. Additionally, Pravapana occurs during the sowing process, while Pralavana is associated with the reaping of crops. Prayayana takes place when storing corn in the barn, and offerings are made to Akhu-raja, the king of moles, at mole hills upon the conclusion of these sacrifices. Fences served as protective barriers against the intrusion of cattle and wild animals into agricultural fields. Measures were also taken to safeguard crops from threats posed by mice, birds, locusts, and other pests, with specific ceremonies and remedies prescribed for crop protection.

In Vedic times

- A compact individual farming system was established to provide sustenance for families multiple times their size.
- The crops utilized a self-fertilizing mechanism, with seeds readily accessible to farmers directly in the fields.
- Crop rotation and sequential planting practices were implemented.
- The vegetation cultivated was suited to the specific soil types.
- Natural fertilizers were employed, and seeds were abundantly available.
- The system operated with self-sufficiency, and methods for preserving seeds and stems for future use were adopted.

- Additionally, farm animals were safeguarded, leading to the production of dairy products.

Conclusion

In ancient India during the Vedic period, agriculture was not viewed as an industry or a means of generating profit. While agriculture had the potential to yield profits, it was not primarily focused on profit-making. The fundamental requirement for human existence is food grains. The offerings made to the land through agricultural practices are returned to us in abundance. Human culture has been enriched by those who are deeply connected to the soil across the globe. Agriculture serves as the foundation for the sustenance of all living beings. Mechanized agriculture has been developed in Western countries, and India has attempted to adopt some of these practices in modern times. However, traditional large-scale cultivation methods remain widely practiced. The Vedas can be seen as a source of inspiration for agricultural techniques in India, as our ancestors understood and implemented these practices with great wisdom. This understanding fostered a sense of divinity in all aspects of life, leading them to celebrate the glory of the divine and recognize every living and non-living entity as integral to the supreme being. Thus, from the Vedic period to the present day, agriculture continues to be a vital and primary source of sustenance for humans and animals alike, with ongoing reliance on its practices.

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