

## Horticulture in the Vedic Civilization : Biodiversity Conservation Perspective

Basu Dev Kaphle<sup>1\*</sup>, Madhu Maya Paudel<sup>2</sup> and Padma Nath Atreya<sup>3</sup>

<sup>1</sup>Ministry of Agriculture and Livestock Development, Kathmandu, Nepal

<sup>2</sup>Bharatpur Hospital Nursing College, Bharatpur, Chitwan, Nepal

<sup>3</sup>Temperate Horticulture Development Center, Marpha, Mustang, Nepal

\*Corresponding author's email: kaphlebasu@gmail.com

### Abstract

The Vedas, meaning knowledge in Sanskrit, are universally acknowledged as the earliest literature of universe which basically includes wisdom and laws of nature. This paper simply tries to present the agricultural wisdom expressed in different vedic literatures and its relevancy in the present context with reference to horticultural biodiversity conservation. Going by the vedic literature, it is quite evident that agriculture sector was the key source for livelihoods of the people (कृषिमूलं हि जीवनम् । ऋग्वेद) (Vaidik Sukta Sangraha, 2020). Agriculture, animal husbandry and fruit based agroforestry are the major components of integrated farming system in vedic civilization as mentioned in the different literatures. Vedic civilization inspires to use local knowledge and skills derived from experienced practices from generation to generation such as maintenance of home garden in their yard having different fruits, vegetables and medicinal plants with watershed management practices. Nepal is considered one of the most biologically diverse and culturally rich countries in the world. Almost all Nepalese cultures have something to offer to conserve bio-diversity. Vedic culture has respect for biodiversity which is reflected in several of its scriptures, texts and followed through daily rituals and practices. The vedic wisdom of respecting the nature with due consideration of horticulture biodiversity conservation is well relevant even in modern agricultural farming system. Due attention needs to be given to follow, replicate and extend the best agriculture biodiversity conservation practices described in vedic literatures.

**Keywords:** Vedic, Horticulture, Biodiversity, Conservation

### Introduction

Going by the Vedic literature, it is quite evident that Bharatkhanda and Himavatkhanda, currently known as Indian subcontinent including Nepal and India, had ancient wisdom on agricultural development since the beginning of human civilization. Vedic civilization has been contributing in the field of agriculture biodiversity conservation since ancient times. The agriculture awareness of vedic seers, right from the vedic periods, was remarkable and praiseworthy as Agriculture has been treated as source of prosperity and sustenance (कृषिमित्कृषस्वा विन्ते रमस्व बहु मान्यमानः ॥ ऋग्वेद) (Vaidik Sukta Sangraha, 2020). Vedic wisdom continued from the time immemorial which arose in the course of many centuries and has been extended and handed over one generation to another by verbal communication initially.

Ancient vedic texts like Vedas, The Mahabharata, Ramayana, Upanishads, Bhagavad Gita, Kashyapiya-krishi-paddhati and Krishiparasara, Puranas and Smriti contain the earliest messages for biodiversity conservation in a sustainable manner. We can take the example from sloka from Mahabharat that those who plant fruits for social welfare are blessed in the afterlife (पुष्पिताः फलवन्तश्च तर्पयन्तीह मानवान् । वृक्षदं पुत्रवत् वृक्षास्तास्यन्ति परत्र च ॥) (Mahabharat, 2018). This paper simply tries to document the agricultural wisdom expressed in different vedic literatures and its relevancy in the present context with reference to agricultural biodiversity conservation.

### Methodology

This paper is based on review of vedic literatures. The information for this study is derived from the review of biodiversity related vedic literatures supplemented by the experiences of authors working in Nepal as a follower of

vedic civilization. Besides, discussion was done with horticulturists, farmers, professors of Nepal Sanskrit Universities (NSU) and indigenous communities involved in rituals and horticulture production in Nepal.

## Result and discussion

### *Agriculture in vedic literatures*

Vedic literatures clearly mention that agriculture was considered prestigious among all occupations (कृषेरन्यत्र नो धर्मो न लाभः कृषितोऽन्यतः । न सुखं कृषितोऽन्यत्र यदि धर्मेण कर्षति ॥) (Shastri, 2017). Different dimensions of agriculture are expressed in vedic literature very strongly. As food is the basic need of human being and for which a developed agricultural system is most essential (अन्नो वै प्राण । वेद) (Juganu, 2013). Vedic seers have also given top priority of food crops production. All creatures (life) come into being from Anna (food) and this food arises with the help of rain. Through yagyas we get rain, thus yagya gives rise to activity or karma (अन्नाद्भवन्ति भूतानि पर्जन्यादन्नसंभवः । यज्ञाद्भवति पर्जन्यो यज्ञः कर्मसमुद्भवः) ॥ (Ramsukhadadas, 2022).

The entire agricultural operations were given a spiritual belief respecting the nature (एनामि कृषिस्ततनाम विश्वाः पनाभोजो अस्मे समन्वितम्...ऋग्वेद) (Vaidik Sukta Sangraha, 2076 BS). The concept of respecting the nature with due consideration of ecological balance is well relevant even in modern agricultural farming system. In due course of time there is the change dynamics of agricultural practices. A little bit elaborative explanation on agricultural practices are found in Yajurveda showing the advancement in farming system. Atharvaveda also well explains the agricultural occupation as a prestigious occupation (कृष्टराधिरुपजीवनीयो भवति ॥(Vaidik Sukta Sangraha, 2020) While talking with the animal husbandry, domestication, caring and use of cattle (cow, bull), horse, sheep and goat are well mentioned in the vedic literatures (Prapannacharya, 2016).

Krsihiparashara has discussed the importance of agriculture in elaborative forms. It says that even a learned scholar who is expert in all the four Vedas, who recites Shastras and is intelligent, when is overcome by Alakṣmī, is reduced to dishonour caused by begging for food with folded hands (चतुर्वेदान्तगो विप्रः शास्त्रवादी विचक्षणः । अलक्ष्म्या गृह्यते सोऽपि प्रार्थनालायवान्वितः ॥) People even having surplus of gold, silver, jewels and garments have to solicit farmers as earnestly as a devotee would pray (सुवर्णरौप्यमाणिक्यवसनैरपि पूरिताः । तथापि प्रार्थयन्त्येव कृषकान् भक्ततृणया ॥) People in spite of having gold ornaments in their necks, ears and hands have to suffer from hunger in absence of food (कण्ठे कर्णे च हस्ते च सुवर्णं विद्यते यदि । उपवासस्तथाऽपि स्यादन्नाभावेन देहिनाम् ॥) (Shastri, 2017).

Food is life, food is also the strength, food is everything. Basically, food comes from grains and grains cannot be available without agriculture. Therefore, leaving everything else one should endeavour for agricultural practices (अन्नं हि धान्यसंजातं धान्यं कृष्या विना न च । तस्मात् सर्वं परित्यज्य कृषिं यत्नेन कारयेत् ॥(Shastri, 2017). Farmers have improved and cultivated diverse varieties of crops and domesticated animals over generations. This has been important for food security and in providing clothing, healthcare and shelter.

### *Vedic farming system and agriculture biodiversity conservation*

Vedic culture has attached great respect to natural elements including earth. Integrated farming system with due respect of ecology and ecological balance is the major approach of agriculture. Ecology is mainly concerned with the interrelation of living organism with their environment. Bhumishukta of Atharvaveda is one of the important source of ancient wisdom on the relation of human being to his environment and his duty is to conserve it. Some mantras illustrate the importance of Yajnas for rain, agriculture, air, environment, all living creatures and their interrelationship (कृषिश् च मे वृष्टिश् च मे... औद्भिद्यं च मे यज्ञेन कल्पन्ताम् ॥ (Vaidik Sukta Sangraha, 2020). Agriculture, animal husbandry and forestry were the major components of farming system described in the vedic literatures.

The major agricultural practices described in vedic literatures are soil and land management with village settlement, integrated farming system with due consideration of ecology, crop cultivation inclusive of plant protection measures and agricultural technology, irrigation system management, animal husbandry, agroforestry management and meteorological observation in relation to farming system.

Methods of farming have also been discussed in vedic literatures. There is some sort of similarity between method of farming mentioned in Atharvaveda and modern method. In sathapatha brahmana, a vedic texts, the whole process

of farming has been described in four word- Karsana (preparation of the field), Vapana (Sowing seeds), Lavana (Reaping the harvest) and Mardan (Threshing). Ploughing was regarded as an important process in cultivation. Prayers were offered for the ploughshare to plough the field properly and for tillers to practice properly (शुनं सुफला वि तुदन्तु भूमिं शुनं कीनाशा अनु यन्तु वाहान् ।) (Vaidik Sukta Sangraha, 2020). Cultivation of a wide range of cereals, vegetables and fruits was common and animal husbandry was the important means for their livelihoods.

Nepal is rich in religious, cultural, ethnic and biological diversity. Even now, in Nepal these components are well integrated in the farming system in Nepal. The farming system of Nepalese agriculture varies according to the agro ecological zones. However, integrated farming system, having agriculture, animal husbandry and agroforestry are the major components, is prevalent even now.

As we find in vedic literatures, cultivation of a wide range of cereals, vegetables and fruits was common and animal husbandry was the important means for their livelihood. There was belief that those farmers who are near to nature they must be remarkably close to God. The importance of seeds was emphasized and a certain sequence of cropping was recommended and the practice of preparation of manure by the cow dung for irrigation was common during this time (भूपालैथवा रक्ष्यं काले देवं प्रकीर्तितम् ।वीजराशिः परश्रेयः कृषेस्तु प्रथमं धनम् ॥) (Juganu, 2013)

From the very beginning of vedic civilization, human societies developed various institutional mechanisms, customs and religious beliefs to conserve, protect and promote their natural resources including biodiversity. Currently these knowledge is called indigenous knowledge. Farming communities have also identified and managed a series of genes through selection and cross breeding as described in literatures (बीजनामपि चैनेषामातपे शोषितात्मानाम् ।रक्षणं चैव मादिष्टमुत्त मैस्तु कृषीवलैः) ॥ (Juganu, 2013)

### ***Vedic culture of agriculture biodiversity conservation***

#### **Conservation through religious sentiments**

Vedas are the source of important wisdom on science, tradition and culture of a remarkable civilization. Initially the vedic knowledge was handed and extended down to descendants by verbal communication later on through the valuable vedic literatures of different kinds. Biodiversity conservation was done with religious and cultural sentiments (कृषेरन्यत्र नो धर्मो न लाभः कृषितोऽन्यतः । न सुखं कृषितोऽन्यत्र यदि धर्मेण कर्षति ॥) (Juganu, 2013). The agricultural awareness of vedic seers, right from the vedic period, was outstanding and praiseworthy. Vedic seers explore and extended the agricultural knowledge basically through Gurukulam, the ancient education system. Vedic seers and Sages with divine insight glorify agricultural activities as the basis of sacrifice and as life giver of living beings (यज्ञनामपि चाधारः प्राणिनां जीवदायकम् । कृषिकर्म प्रशंसन्ति मुनयो दिव्यचक्षुषः।) (Juganu, 2013). Conservation was done for the the natural inclination of people towards agriculture to please gods and be encouraged with special effort as it sustains life of all living beings (कृषिप्रवृत्तिं सर्वेषां देवानां प्रीतिदायिनीम् । यत्नतो रक्षयेयुस्तां जीवानां जीवनप्रदाम्।) (Juganu, 2013). Agriculture biodiversity conservation are based on religious inspiration. We can take the example from sloka from Mahabharat that inspire for plantation to maintain biodiversity (अतीतानागते चोभे पितृवंशं च भारत । तारयेद्वृक्षरोपी च तस्माद् वृषान्प्ररोपयेत् ॥ तसमात्तडागे वृक्षा वै रोप्याः श्रेयोर्थिना सदा । पुत्रवत्परिपाल्याच्च पुत्रास्ते धर्मतः स्मृताः ॥) (Mahabharat, 2018).

#### ***Biodiversity conservation through Karmakanda and rituals***

The ancient wisdom, based on experiences and knowledge, recorded in vedic literatures have been transferred to us over several thousand years in the form of karmakand and rituals. Karmakaanda expressed in the vedic texts relate directly to the day-to-day life of the people, governing the social, religious and spiritual rituals performed by people. It is believed that karmakanda includes rituals, ceremonies and actions, which, when performed, lead to bring prosperity in human life. Vedic pandits and priests were most informative and played the key role for extension of knowledge and experiences through karmakanda. For this, ancient education institutions especially Gurukul also played important role for dissemination of ancient wisdom of karmakanda to the students practically.

Farmers are suggested to follow rituals to be performed as per suggestion of vedic texts from preparing land for sowing to the ritual for storing the harvest. For example, for maize there is a pre-harvest ritual which is performed to free the cobs from pest infestation and for rice there are rituals while seeding, planting and harvesting. Performance of any ritual is an excellent training for the wandering mind and in truth is a sadana for spiritual progress. As stated in srimad bhagavat, “During autumn, the fields become filled with ripened grains. At that time,

the people become happy over the harvest and observe various ceremonies, such as Navanna, the offering of new grains to the Supreme Personality of Godhead (पुरग्रामेष्वग्रयणैरिन्द्रियैश्च महोत्सवैः । बभौ भूः पक्वशब्दाद्व्या कलाभ्यां नितरां हरेः ॥) (Srimad Bhagavata Mahapurana, 2019). Even now, this type of rituals are practiced in Nepal during first harvesting and tasting the new crops especially rice which is called “nwai khane”. There are other religious rituals and methods of worship in relation to different agricultural operations, particularly by people who follow vedic civilization. It ultimately helps in maintenance of diversity food and biodiversity conservation. In Nepal, many festivals have been celebrated through the year. Different varieties of food have been the integral part of these festivals and rituals as one is incomplete without the other. People in Nepal regard festivals as opportunities to serve diversity of good food to the gods and eat the same with their families as blessings. Since, rituals and festivals are incomplete without food, plants and their flowers, leaves and fruits, they had to be preserved and protected as described in Srimadbhagavata Gita (पत्रं पुष्पं फलं तोयं यो मे भक्त्या प्रयच्छति । तदहं भक्त्युपहृतमश्रामि प्रयतात्मनः॥) (Ramsukhadas, 2022). Cultural belief on vedic civilization considers the Nature as ‘the body of God’. Different plants and animals are associated with different Gods and Goddesses and worshipped giving emphasis on their protection and conservation. It also provides a moral and religious guideline for biodiversity conservation worshipping them in the different festivals such as cow, dog and crow in tihar, snake in nagpanchami, Basil plant in yakadashi bel in Shivarati, mango and peepal leaves in different rituals and festivals. Unnecessary use and exploitation of this biodiversity is considered as unjust and immoral.

The relationship between vedic culture and ecology is the integral part of ancient Nepalese societies too. Diversified community in Nepal used many local knowledge and skills derived from experienced practices from generation to generation such as maintenance of home garden in their yard having different fruits and medicinal plants, watershed management practices having a belief that they should not cut plants surrounding the source of water, water harvesting and conservation making groundwater recharge pond and grazing land (gaucharan) protection specially for cow. Besides, use of cow dung and urine-based fertilizer to enhance microorganism diversity in soil for healthy food production. Therefore, Vedic culture can be understood as a holistic model that inspires a reconnection of humans with nature and provides one of the best models for agricultural biodiversity conservation (Kaphle et.al., 2022)

Relations with diverse biological entities and concern for their conservation remained important components in the structure of ancient civilizations of Nepal which is still followed. We can take the example of the Bala Chaturdashi festival, generally lies on the month of Mangsir i.e, the starting of the winter season in Nepal. It is also called the day of sowing different grain seeds. In the Nepalese term, it is pronounced as Satbij chharne din, where the hundred kinds of cereals, vegetable and fruit seed are mixed and sowed to the jungles and field nearby different Shiva temples. It has a great message that the ancient people developed many effective measures to safeguard our seed systems which reflect sustainable agriculture biodiversity conservation. Thus, Karmakanda and rituals have a great role in agriculture biodiversity conservation as these inspire people to follow the agricultural conservation activities in sequence creating awareness.

## Conclusion

Overall study revealed that ancient wisdom on agriculture, expressed in vedic literatures right from the human civilization, is remarkable and commendable for agriculture biodiversity conservation. The awareness, knowledge and practice of vedic seers and annabida, on agriculture biodiversity conservation right from the vedic period, was outstanding and praiseworthy. Basically agricultural biodiversity conservation practices was done with religious, ethical and cultural belief. This paper has just presented the agricultural wisdom expressed in different vedic literatures with reference to agriculture biodiversity conservation. It has a deep respect for biodiversity which is reflected in several vedic literatures and followed through daily rituals and practices. The vedic knowledge could form the very potential basis for modern agricultural science. Finally, it can be concluded that further study is needed by scholars and researchers to utilize the valuable treasure of ancient vedic wisdom for horticultural biodiversity conservation and utilization.

### **Declaration of conflict of interest and ethical approval:**

All authors mentioned in the manuscript have agreed on authorship, read and approved the manuscript and given consent for submission and subsequent publication. There is no conflict of interest.

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