

Bodhichitta: An Introduction



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Nepal which is known as rich country in biodiversity consists of 5856 plant species among which 700 species are being used as NTFPs. Among them, 200 species are commercial species. *Bodhichitta* is one among such commercially used species. In Nepal, its cultivation was started from Kavre district which has now been cultivated in adjoining districts also. Farmers of Temal region are getting benefits from this valuable species due to which their economic status and the level of livelihood have been improved. However, very few researches on this valuable species have been conducted.

Considering this, Forest Research and Training Centre had conducted a research in fiscal year 2073/74 in order to disseminate information on technical and commercial aspects of *Bodhichitta* among related stakeholders on the basis of which this booklet has been published.

Yam Prasad Pokharel

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1. Introduction:

Bodhichitta is a *Ziziphus* species which was previously known as *Ziziphus budhensis*. In 2015, scientists have declared it as an endemic species of Kavrepalanchok. However, it has been proven as a species similar to Chinese Zuzuba (*Ziziphus xiangchengensis*) after its D.N.A. test. The Nepali name of this species is derived from Sanskrit word " Bodhi" which means "Light" and "Soul" which means "Life". In Tamang community, this tree is known as Phrengba or Buddhamala. Similarly, it is known as Tenwa in Tibet and Shuzu in China. This study is based on direct field observation, household surveys, key informants interview, focus group discussion and literature review conducted in Nnarayansthan, Thokrey and Boldey villages of Temal rural municipality. *Bodhichitta* are planted in farmlands and/or home yards by all households surveyed. The household survey showed that the average number of plants per household was about 46, of which 37 were yet to fruit; it indicates that massive plantation of *Bodhichitta* took place in the recent years. It was observed that the planting materials are produced locally through seed propagation. *Bodhichitta* seeds are traded to China, through a few middlemen in the village.

2. Taxonomic classification:

The taxonomic classification of *Bodhichitta* is as follows:

Kingdom: Plantae
Division: Tracheophyta
Class: Mangnoliopsida
Order: Rosales
Family: Rhamnaceae
Genus: *Ziziphus*
Species: *Z. xiangchengensis*
(Source: Pathak et al. 2017)



3. Mythology:

According to myth, Buddha had dropped *Bodhichitta* seeds in three places but the seeds didn't germinate in Middle Lumbini and Namobuddha. However, germination takes place in Temal region of Kavrepalanchok district. Another myth says that Guru Padma Sambhav had left seeds of *Bodhichitta* during his meditation in Temal region.

4. Ecology and Distribution:

Bodhichitta is cultivated at an altitude from 945 to 2001m in Kavrepalanchok district. Almost every households of Temal region has done its plantation. It is not regenerated in wild. Farmers of Temal region have been cultivating this species in their farms and courtyards from the very beginning. According to the survey conducted in three villages, the average number of trees over households is 46 among which 9 trees were found already fruited and 37 were not fruited. Bodhichitta is cultivated along with other agricultural crops such as Maize, Cereals, Radish, Onion etc. Bodhichitta thrives in northern aspect with sandy and rocky fragile soil. Initially, this tree species used to be cultivated only by Tamang community of Temal region whereas the neighbouring countries have also started its cultivation due to its high economic value.

5. Cultivation technique:

5.1. Seedlings production:

Bodhichitta is a small spinose tree which can grow up to 8-10m height. It starts fruiting from the age of 3 years. It is found that the tree is giving fruits up to 90 years. However, its actual lifespan is still unknown and a detail study upon its lifecycle and other biological study is yet to be done. Cultivation practices of *Bodhichitta* have been done by seeds only till date. Fruits are collected in Shrawan directly by hand picking method. In same year, fruits are dried in sun for 1 to 2 days after processing after which they are soaked in cold water for 24 hours. Seeds are covered by hard globose nut and each nut consists of 1 to 3 seeds. Those seeds are sown polythene bags which contains fertile soil. As per local farmers, germination takes place within 15 to 30 days of sowing seeds and its germination percentage is 60.

5.2. Cultivation:

Site: The suitable site for this species is northern aspect with gravel and sandy soil for well growth and high production of seeds. It is not planted waterlogged areas.

Plantation: At least 1 year seedling is suitable for plantation. Spacing is 4-5m and *Bodhichitta* is planted in a pit(30cm*30cm*50cm). It is necessary to protect seedlings from excess water flow.



5.3. Cultivation management:

It is good to irrigate if plant starts to wilt but storage of excess water around plants should be avoided so that plant doesn't wilt and die. For well growth of *Bodhichitta* tree and seeds production, it is necessary to clean the space around tree. To ensure high production, intercropping of agricultural crops is very essential otherwise it may decrease seeds production resulting even the death of tree. Applying high amount of fertilizers around the tree produces large size beads. However, there is higher market price for small sized beads rather than larger ones. So, farmers use fewer amounts of fertilizers. Regeneration of *Bodhichitta* was observed also through coppice.

6. Uses of fruits:

It has high religious value. A garland is prepared from 108 beads of uniform size and color which is used for meditation. Farmers from Temal region have gained good income from *Bodhichitta* due to which there has been drastic improvement in livelihood of local people. *Bodhichitta* is valuable seeds which are used by Buddhists for religious purposes. *Bodhichitta* is



used by Buddhists to recite mantras and for praying with a belief that it enlightens the soul. It is also used for making rosary, bracelet, keyring etc. It is made up of 108 beads rosary.

7. Seed collection and Processing:

Fruiting takes place only after 3 years of establishment of

Bodhichitta trees in the cultivation areas. First year, only 12-14 fruits are produced from one tree and the production increases with the increase in age. Flowering takes place in the month of Chaitra-Baisakh and fruiting in the month of Jestha-Ashad. Farmers collect fruits by hand picking. Fruiting takes place every year. The study has revealed that fruiting has taken place even in 90 years old trees. However, the actual lifespan of this tree is still unknown.

The study shows that about 70 % sell *Bodhichitta* in raw form and remaining about 30 % sell their products after processing. Farmers are processing *Bodhichitta* seeds using two methods:

a. Dhiki method:

It is used for the removal of outer coat of seeds after which they are washed properly in water to clean them and dried in sun for 1-2 days.

b. Boiling method:

In this method, seeds are filled in the pot containing cold water and boiled with heat provided which enables the removal of outer coat of seeds. They are cleaned with water and dried in sun. The quality of the beads processed by this method is believed to be lower in quality than that of beads processed from the use of Dhiki. Hence the beads processed by this method are not used for nursery purposes.



8. Market of *Buddha chitta mala*:

In the very beginning, *Bodhichitta* used to be traded in price NRs. 2 to NRs. 5. Later on, the price increased after Tibetan Buddhist Dalai Lama claimed that *Bodhichitta* which are found in Nepal are of high quality. Its price depends upon size, color quality and number segments.



It has high market price in Nepal and China. Generally, smaller the size of the beads higher is the price. The beads of size 7mm have the higher price and there is the gradual decrease in the price as the size increases. The beads up to size 12mm have good market value whereas beads of size above 12mm have no or very little market value but the beads above size 18 mm have higher price which are very rarely found. The beads should be whiter or

clear to get good market value. Segments or faces of *Bodhichitta* beads are deep lines found on the surface of the *Bodhichitta* beads. *Bodhichitta* beads ranges from single face to several faced beads (1-7 mukhi). Higher the segments/faces of the beads higher is the price.

Bodhichitta has been used by Buddhists for worship since the ancient period has now got an international market. Its prime market is China. However, it is used by India, Japan, Thailand,

Bhutan and Srilanka. Although the trade of *Bodhichitta* in Nepal started from ancient period with a very low price, it is legalized in 2068 B.S. (DFO, Kavrepalanchok).

According to Forest regulation 2072, *Bodhichitta* was removed from the list of NTFPs which need transport permit. Later on, District Forest Office (Division Forest Office now) as per letter issued by Department of Plant Resources has enlisted *Bodhichitta* as Bhodrakshya and issuing transport permit collecting 13% VAT from farmers. DFO monitor, verify the product, levy tax and then only provide transportation permit. Trade of *Bodhichitta* from Kavrepalanchok District is given below:

Fiscal year	Unit (Kg.)	Vat (NRs.)
2070/71	4900	5906
2071/72	21018	21858.72
2072/73	19448	22360
2073/74	18360	19094.4
2074/75	36165	36611.6

As the international demand and market price is high, the sellers buy the tree in advance before the flowering starts fixing the price. As its demand has increased in China, the involvement of Chinese is being increased.

The trade process of *Bodhichitta* beads are shown below in a figure 1:

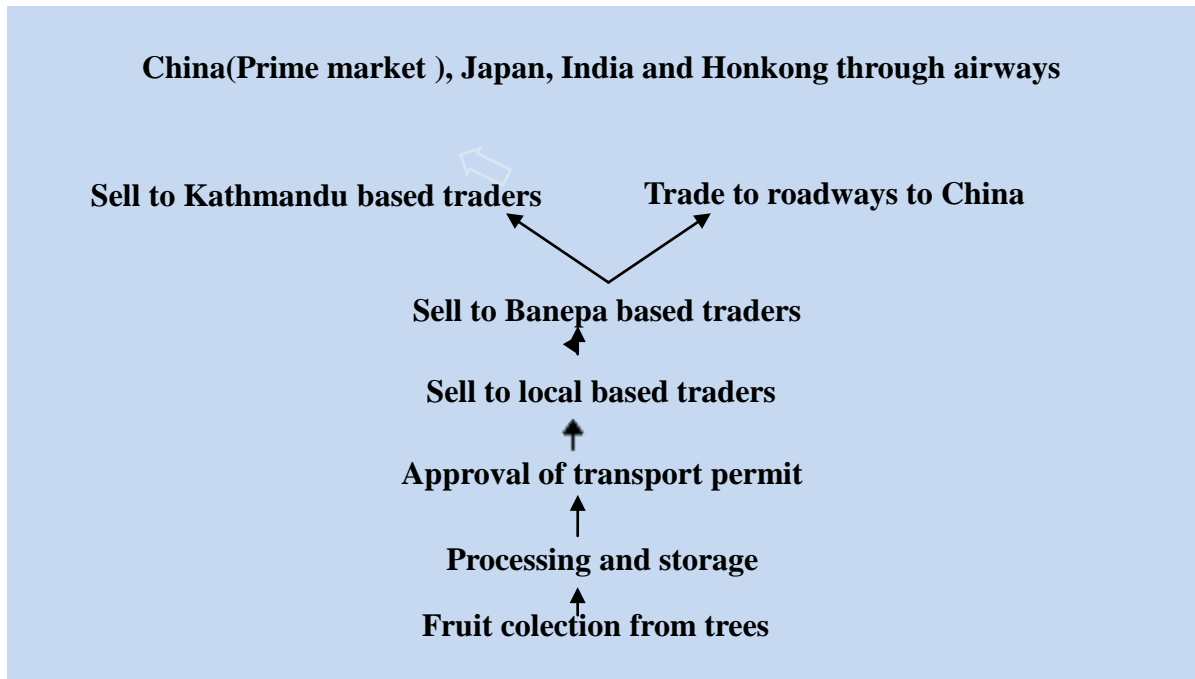


Figure 1: The trade process of *Bodhichitta* beads

Generally, farmers sell their *Bodhichitta* trees in early age before ripening of fruits. They also sell whole tree with their own evaluation without weighing. In this way, the average price of *Bodhichitta* per tree was NRs. 50,000 while selling in fiscal year 2074/075 according to local traders and farmers. Thus, the average annual income from *Bodhichitta* per household is NRs. 45,0300. The study revealed that 16 % of farmers have knowledge on market price of *Bodhichitta* whereas 84.44% don't have.

9. Problems and Challenges in *Bodhichitta* trade:

Thieving or robbery has been a problem since its market value has been inclined. So, farmers sleep under trees until fruits are collected. Some farmers also hire care taker. Recently, they have started using CCTV camera. There is a problem of robbery in the time of transportation also. Similarly, there is uncertainty in price of *Bodhichitta* due to fluctuation in global market price. Farmers are not getting actual price due to involvement of middlemen. According to farmers, seeds quality is being decreased due to immature seeds collection because of their early



demand in international market. In recent years, its price is in decreasing due to early collection of seeds and selling them without fine processing. It is traditional practice and not banned by law. However, farmers still have to pay transport permit. They also complain about the slow process of government agencies in this regard. Dead, dying and diseased, appearance of black color in seeds and diseases transfer were problems observed in some places during field visit.

10. Conclusion:

Bodhichitta has high economic value due to its religious value. Its wider cultivation certainly improves the livelihood of farmers of Temal region due to its high demand and price for making rosary, bracelet and other products. *Bodhichitta* thrives in northern aspect with sandy and rocky fragile soil. Prime market of *Bodhichitta* is China. It is traded to other countries through China. Farmers are not getting actual price due to involvement of middle men. Price increases by 10% when reaches to market from farmers. Thieving, robbery and diseases have been seen in Temal region. It is necessary to study ecology in order to promote it in commercial ways. Similarly, its biology should be studied for its proper management. Well coordination between District Forest

Office and Police Administration is essential for the conservation of this species. Regeneration of *Bodhichitta* has been done only through seeds till now. More possible regeneration methods should also be studied. Similarly, the causes, prevention and control of the diseases is essential to be studied as well as government should promote it in international market.

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