

Over-religious Activity, A Threat to Biodiversity (3): Conserve 'Kusha' (*Desmostachya bipinnata*) before its Extinction

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KEYWORDS Over-religious Activity, Kusha, *Desmostachya Bipinnata*, Vedic Literature, Aayurveda, Medicinal Utility, Religious Importance, Endangered Plant.

ABSTRACT Most of the Hindu religious functions can not be performed without the use of Kusha (*Desmostachya bipinnata*). The plant has a lot of metaphysical property to overcome anger and grief as claimed by Atharva Veda. In religious rites it is used for protection and purification of a system. It has many medicinal property as explored by Aayurveda. In spite of restriction for its collection from nature, there is no attempt for cultivation and conservation of the plant. The over use of this grass in religious practice along with day by day narrowing of its spreading area may drag the plant towards endangered status leading to extinct.

INTRODUCTION

In Hindu religious practice, plants are worshiped directly or different plant parts like flower, leaf, bud, wood, branches are offered for the purpose. This habit plays a significant role for the conservation of plants in temple yards (Mohanty et al 1997). Plant conservation and worship is also important from astrological point of view (Dash and Padhy 2015). Amongst all plants, the role of Kusha is extra-ordinary in religious activity. But unfortunately, this plant is under restriction for cultivation or conservation. Time is not for off for extinction of this plant, which is under over use. This communication is aimed to explore the importance of Kusha and create an eco-consciousness for this plant.

ECOLOGY OF 'KUSHA'

Kusha is a monocotyledon angiosperm, Order - Poales, Family - Poaceae, Genus - *Desmostachya*, Species - *Bipinnata*; enjoys a name *Desmostachya bipinnata* (L) Stapf. It is a perennial grass with a stolon stem of significant height. The stem remains under coverage of the leaves. It is of two types - small and big with leaf blade either plain or rough.

In Sanskrit Kusha has names: Darbha, Pabitra, Yajnyaika, Kutth, Barhi, Suchiagra, Khurapatra and Yajnyabhusana. In Odia, Bengali and

Aasami it is called Kusha; Telugu - Durbabalu, Dava, Darbha, Aswalayana; Hindi - Daava, Dab, Davoli; Malayalam - Darbha, Darbhapullu; Tamil - Dharbai, Tarupai; Canada - Kusha, Dharbe; Marathi - Darbha, Daav and in Urdu - Bikh deb. In most of the Indian languages the Sanskrit name Darbha has a reflection.

The English name of the plant is Halfa grass, Big cord grass and salt reed-grass. It is spread up in north east, west tropical and northern Africa (in Algeria, Chad, Egypt, Eritrea, Ethiopia, Libya, Mauritania, Somalia, Sudan and Tunisia) and countries in the Middle East and temperate and tropical Asia (in Afghanistan, China, India, Iran, Iraq, Israel, Myanmar, Nepal, Pakistan, Saudi Arabia and Thailand).

The plant grows well in rainy season and helps for conservation of the soil. In India it is available throughout the country. The importance of Kusha and research on it as realised by the Indian people since the Vedic age, is not found anywhere else.

KUSHA IN VEDIC LITERATURE

Very interesting facts about the Kusha are reflected in Atharva Veda (AV). In the sixth *Kanda* (Chapter): The *Mannusaman Sukta* (43) has appeared. *Mannu* (*Mann-u*) has a meaning anger, wrath and as well grief, sorrow. *Samana* means: coordinator of peace. This *Sukta* can be

elaborated as follows (Acharya and Sharma 1999).

- “The Kusha is standing before me. It is powerful to spoil my personal anger and as well as of others. It is capable to cool down the wrath of naturally furious and unnecessary ill-tempered persons”.
- It is said that, “Kusha grows on the earth, deep in soil near seashore (climate) is capable to pacify the anger”.
- “Oh the power of *Devataa Krudha* ! we cool down the vibration of veins on the chin and appearance of different signs of anger on the face (with the application of Kusha). You please do not speak out continuously being forced by wrath and be favourable towards my mind”. It can be inferred that, Kusha keeps the mind cool and subdues the anger.

In the 19th Kanda the *Darbhamani Sukta* (28, 29, 30) and *Darbha Sukta* (32, 33) elaborates more about the Kusha. The use of adjective *Mani* (gem) with the former *Sukta* specifies the quality and importance of Drabha. The gist of the above all *Suktas* is as follows:

- “Oh Man ! we tie the *Darbhamani* (Kusha) with your body for your long life and brilliance. This is a destroyer of enemy, and will cause distress in the heart of spiteful opponent”. (Anger is also projected here as enemy and opponent).
- “*Oh Darbhamani* ! You please smash the feeling of ego and hostile attitude in the heart of our enemy”.
- *Oh Darbhamani* ! You have armour to keep away the decay condition of old age and death. By that power give us protection”.
- Oh Drabha ! we appoint you as the guardian of the body being enriched with the power of a warrior. You save our body field”.
- “Oh Man ! The most powerful and top most medicinal plant Drabha united with unlimited branches and thousands of leaves, we tie to your body for long life”.
- “Oh Drabha ! By your grace, let our enemy like unpleasant stricture and voice (for others) get lost, let we have growth of our friendship overthrowing of foe, let we have long living children and let you get exposed like an important medicine and save us from all sides”.
- “Oh Drabha ! your winning capability (over diseases) and our capacity to struggle, be united to restraint the enemy”.

- “Oh Drabha ! Sin never touches the person who holds you. You enlighten, purify and give him long life. You enhance the powers of his sense organs. Be the cause of his strength and power, and give him energy to perform work like a brave. For the betterment of the old age we tie you on our body”.
- “Oh Brave Man ! (you are) Holding the Drabha, do not be menally sorry. With your own strength influence others, like the sun illuminates the surrounding”.
- “Oh pleasant Drabha ! You shine over the sacrifice platform (*Yajnya Mandapa*) in a beautiful form. Purify us with elimination of the sin. Please prepare us, to be wellbeing of every one. With whom we have affection, make us affectionate for them.”

Apart the above all good qualities of Drabha, from environmental science point of view, it is said that:

- “The raining cloud, thunders with electric sparkling. Golden rain drops percolate from the sky and generate the Kusha”. (The plant grows profusely in rainy season).
- “Oh *Ousadha* ! Being decorated with unlimited branches and leaves, your head is up towards the sky and you are stable over the earth, as well spread up tearing the soil. With your generation the surface of the earth becomes strong, which stabilize the sky and heaven. You conserve the soil with your root system”.

The elaborations of the Vedic literature reveals a metaphysical character of Drabha, that can enhance the mental power to overcome the anger, grief and influence a person to be friendly with everyone. The plant has hidden medicinal property to overcome the aging process. In course of time, Aayurveda has established Kusha as a medicinal plant discussed below.

KUSHA: MEDICINAL IMPORTANCE

Aayurveda has explored the right part of the plant, that is the root system, which is enriched with medicinal quality. However, the leaves of Kusha has some healing power; in total is presented below:

1. Macerated leaf extract of Kusha applied on a fresh cut wound stops bleeding and heals quickly.
2. Leaf extract squeezed into nose stops bleeding.

3. Pounded leaf applied on the skin cures itching disease.
4. Any type of wound washed with the decoction of Kusha root quickly heals it (Charaka).
5. Kusha root pounded in rice washed water, taken being mixed with powder of cumin seed (*Cuminum cyminum*) and sugar cures menstrual disorder (Chakradatta).
6. Kusha root and bark of Bajramuli root (*Sida rhombifolia*) grinded together with rice washed water, taken internally stops blood stool evacuation (Bangasena).
7. Decoction of Kusha root clears urination.
8. Decoction of Kusha root and Gokhara (*Pedalius murex*, *Tribulus terrestris*) mixed with honey and sugar candy taken in cures rheumatic fever.
9. Ointment of pounded Kusha root checks the burning sensation.
10. Intake of mixed decoction of Kusha root, Maghi Raasi (*Sesamum indicum* Raasi produced in the Hindu calendar month Magha) and old Gur (Jaggery) cures scanty and obstacle of menstruation.
11. Boiled water of Kusha root with little honey taken in three doses cures fever generated out of *Tridosha* (derangement of the body).
12. One: One, Ksuha root and Badi amalakam (*Phyllanthus fraternus*) pounded in rice washed water, taken for seven days twice daily morning and evening, cures all sorts of menstrual disorder of females and keeps them active and fit.
13. Kusha root grinded in cow milk, taken in repeatedly followed by sugarcane juice cures scanty urination disease.
14. Pain at the abdomen and anus region relieves when fomented with boiled water of Kusha root.
15. Boiled water of Kusha root mixed with little honey and juice of Adrak (*Zingiber officinale*) taken in gives relief from all types of fever, thirst, burning, distaste, headache, cough, asthma and hiccup.
16. Decoction of Kusha root mixed with powder of Golmirich (*Piper nigrum*) and little honey taken thrice daily for three days, relieves form all sorts of stomach pain.
17. If anyone is suddenly attacked by diarrhoea with vomiting, he should be administered quickly by pounded Kusha root with Golmirich, that relieves quickly. This application is also favourable for early delivery.
18. Root of Kusha grinded with cow milk, if taken in early in the morning, it clears the urination and cures from gonorrhoea.
19. Pounded Kusha root mixed with sugar water if taken daily, it cures incurable Asmmri (Kidney stone) and stoppage of urination.
20. Juice of green Kusha root mixed with limited sugar candy power taken thrice daily cures excess bile secretion and its negative impacts.
21. Five products: Adrak, Mirchi (*Capsicum annum*), Haldi (*Curcuma longa*), Kalajira (*Nigella sativa*) and root of Kusha in equal part are to be pounded together and cooked till the remaining of 1/8 part of water, filtered. The filtrate mixed with little cow urine is to be taken daily twice or thrice for seven days. It cures jaundice, paleness and dropsy.

KUSHA: TANTRIC APPLICATION

The philosophy of *Tantra* has a broader meaning - 'Spread to save' (Bernard 1989). The super natural power, a universal concept, got manifested to perform different functions; an ecological spread over (of powers). Their structure was designed scientifically as a *Devataa* from mythological point of view, while recognised as a secret positive or negative power in every system (Vitasaxis 1977). Such implications of Kusha are as follows:

- In any Sunday, after a full bath in the early morning, the root of Kusha collected from the east side of residential house, kept with self-enhances the name and fame of a person.
- Root of Kusha pounded with cow milk taken; spoils the black magic applied by someone.
- Root of Benna (Khaskhas: *Vetivera zizaniodes*) and Kusha grinded together, pasted on the head cures madness caused due to application of black magic.
- In a specific Saturday, if it coincides with the eighth day of a dark fortnight; Kusha root is to be procured from the nature and kept in house. If this root is tied as a talisman on the hand of a person who suffers from intermittent fever and the turn of the fever comes on Saturday or Sunday, the disease is cured away.

KUSHA: RELIGIOUS PRACTICE

Kusha has multiple utility in religious rites. In the epic 'Yagnya Paarswa' it is mentioned that, use of Kusha is a must in rites like: *Yajnya* (Sacrifice), *Pakayajnya Karma* (Offering of cooked food - *Biswadeva Puja*, Padhy 2008), *Pitru Karma* (Manes worship) and *Deva Karma* (Worship of *Devata*s).

Havan (Fire Worship)

The metaphysical properties of Kusha identified in Vedic literature has reflected in the religious functions in course of time. Kusha protects the *Yajnya Mandapa* (Sacrificial platform) from external disturbance. In a laboratory, generally the necessary chemicals and instruments are assembled on the working table before the conduct of any experiment. Such an activity is conducted before *Havan* (Fire worship) called *Kusandi beedhi*. The necessary material for *Havan*, such as Wood, Ghee, *Havan* instruments, Fire, *Charu* (medicinal products) to drop in fire, flowers etc are assembled first on the platform. All sides of the *Mandapa* are covered with Kusha for their metaphysical protection. Specially the fire place at the centre of the platform is protected by Kusha by a process known as *Kushai Paristharana*. Bundles of Kusha are placed in the East side - tip towards the North; South - tip towards the East; West - tip towards the North and North - tip towards the East (Fig. 1). All the fire warship instruments and materials are touched with Kusha with chanting of Mantra

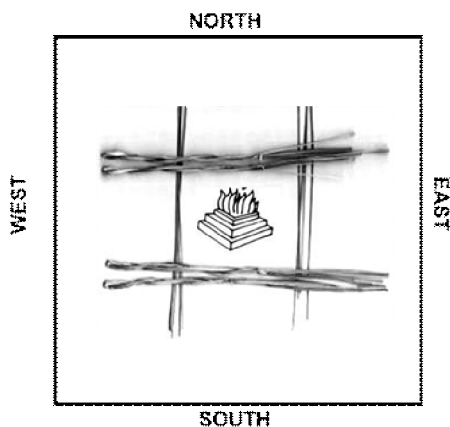


Fig. 1. Fire place of a *Yajnya Mandapa* and position of Kusha for metaphysical protection

for their purification and protection. For this process Kusha has a special name *Pabitra* (sacred).

Use of Kusha Batu (Ring)

Before starting of any type of *Karma Kanda* (worship procedure) the *Kartaa* (executant) is expected to wear a ring of Kusha in the ring finger. This ring is instantly prepared before the starting of any worship work. There are two types of ring: *Bartula Granthi* (Knot) and *Brahma Granthi* used as per need. The ring is fabricated with five Kushas for worship in constructive work (*Pustikarma*), four for peace worship work (*Shanti Karma*), three for Manes worship (*Pitru Karma*) and two for daily worship (*Nitya Karma*). There are specific Mantras to be uttered during ring fabrication and acceptance. To describe more about the ring fabrication procedure is beyond the scope of this commutation. In epic 'Aanhika Sutrabalayam' it is clearly written that any religious activity such as: bathing at a pilgrim place, *Havan*, *Dana* (offering), Recitation of Veda and *Pitru Tarpana* (offering water to Manes, (Padhy 2008) should be followed after wearing a Kusha ring. Moreover, the Kusha ring (called as *Batu* in Sanskrit) enhances the mental strength, concentration, keeps the mind away from irritation and anger and encourages to perform any worship work with consciousness.

In many temples, just at the entrance, a huge bundle of Kusha is tied over the *Dhwaja Stambha* (Flag Post). Anyone who enters into the temple is expected to offer his first prayer at this point. By the influence of Kusha his mind gets cool down and is concentrated for worship work.

Kusha as Purifier and Non-conductor

Kusha works as a great purifier. After the performance of any worship, finally sacred Kusha water (*Shanti Jala*) is sprinkled over every one whoever is present there, and prayer is offered for peace and harmony. In *Manusmriti* (The first ethical law book of human race) it is focused that, if any one touches wine or drinks the offal water of a *Sudra* (may be by mistake), he should purify himself by drinking Kusha dipped water for three days with some sacrifice.

During the time of solar and lunar eclipse, in order to save the cooked food and other household commodities from metaphysical impurity (*Grahana Dosa*), Kusha is placed over them for protection and maintain their purity. In different

ethical epics, it is projected that, sleeping on a Kusha bed during the previous night of any worshipping day, enhances sacred feeling and develops concentration.

The science of Yoga states that, in every human body there are interconnected spiritual nerves which connects it with the whole universe, as if, the total nature interplay inside a corporeal frame. Amongst these yogic nerves, the most important named as *Sushumnaa* is placed within the spinal column being extended from the lowest vertebra upto the brain. This spiritual nerve has six vortex points. It is realised that, the whole vital energy of the human body being connected with the universal energy, is concentrated in the lowest vortex point called *Kundalini* placed at the pelvic plexus or coccygeum ganglion (Padhy 2016).

A yogi, when sits on the ground surface to perform his Yoga Kriya, the magnetic and gravitational forces of the earth puts impact on the energy current of his spinal column and disturbs the concentration of mind. To avoid this, a Yogi is expected to sit on a non-conductor *Aasan* (seat) to perform yoga. The description of the Yogic *Aasan* is given in Gita (6/11):

Chhailazinkushottram - "Put the Kusha mat on the soil, over that place a skin of Mruga (*Antilop*) and spread soft cloth at the top". For the protection of the *Sushumnaa*, Manusmriti (2/75) has also advised to use Kusha *Aasan*. According to early Buddhist account, Goutama Buddha used Kusha seat for his meditation when he attained enlightenment under the Bodhi tree. This proves that, the Vedic age Indians were aware of the non-conductor property of Kusha. Coincidentally recent medical research has proved that, Kusha blocks sixty percent of X-ray radiation (Internet Source). When so powerful radiation can be absorbed by the holy grass, why can it not absorb the ill-radiations?

In mythology, the ecological powers are designed scientifically as *Devataa*, holding different weapons in their arms (more than two). The weapons represent the modus operandi of their powers. In an epic 'Aanhika Karikayan' the Kusha is praised as the weapon of the worshiper (Priest), compared with the weapons - Bajra of Indra, Chakra and Vishnu and Trisula of Siva. This indicates that, the worshiper is capable to draw the power of the *Devataas* through the Kusha. This energy pulling property of Kusha is just opposite to its previously discussed non-

conductor activity. In totally Kusha has the capacity to drag the energy, obstruct the loss of power, channelize it for the elevation of mental sphere to make it calm and as well disperse the negative impacts. It is well realised that, Drabha has the highest value in conducting the phonetic vibration through its tip.

Among the Hindu religious days, the fifth day of the bright fortnight of Bhadraba month is named as 'Rakshaya Panchami'. There is instruction to perform a puja this day to *Devataas*: Ganapati, Mahadeva and Vairab for the protection of the residential house from diseases and external negative elements. A specially designed Kusha fabrication, tied with the specific Mantra written on a palm leaf, is hugged in front of the house. People have strong faith that, this structure protects the house from all sorts of negative vibrations, diseases and enemies for one year.

CONSERVE THE KUSHA

The world is passing through critical environmental problems. Raise of atmospheric temperature, disturbed ozone layer, acid rain, green effect associated with air and water pollution are major problems. In localised areas irregular raining or deficiency, unusual overflow of rivers, earth quake, occurrence of typhoon has kept the citizens under stress and frightened. Use of chemical fertilizers and pesticides in agriculture and dumping of radioactive substances has diminished the fertility of the soil with additional problems like deficiency of burning fuel and lack of food for cattle. Sound pollution needs special status for evaluation, as hardly any one bothers for its negative effect and human society derives pleasure out of it. Under such situation, the over population, urbanisation and industrialisation associated with depletion of biodiversity due to extinct of plants and animals creates an alarming situation.

Day by day forest area coverage deteriorates which causes heavy pressure on ecological balance. For the growth of township and development of road and railways, the plant growth areas are cleared up. In such a situation the Kusha grass is not an exception to escape the irradiation process. For instance, two villages named 'Kushapada' and 'Kushasthali' near the home town of the author which were important hubs for the growth and collection of Kusha thirty

years ago, now urbanised and there is no trace of the plant in that area. In the Puri district (Jagannath Dham) Odisha there is a river named 'Kushavadra' once was famous for the growth of Kusha on its bank is now fallen dry and at the verge of to be declared as dead. The above are the outcome of a short ecological study on the plant by the author.

The Vedic Indians were aware of ecological pressure on *Desmostachya bipinnata* due to its expected excess consumption, which is evident as follows:

1. In the whole year, one day is fixed for collection of Kusha from the nature i.e. on 'Bhadra' month new moon day called Koushi Amabasya. This day comes in the rainy season when the plant grows in excessive form and spreads up on the soil surface. Collection of the leaves for religious purpose and roots for medicine to any extent, has comparatively little impact on the eco-system. The climatic and edaphic condition offers enough scope to the plants for their recovery.
2. Kusha collection from nature on any day, other than the above mentioned specific day is strictly objected. It is an ethical protection for the plant. An interaction with a person who is a religious commodity business man in the author's home town is as follows:
"I had been to a specific place for collection of Kusha for my business due to short supply. By that time, I was not aware of the collection day specification and other rituals related to that. Suddenly, I was caught red-handed by the nearby villages and they insisted me to go for a penance for the mistake I committed". One can observe the strictness followed now a days also for Kusha collection, that adds to its conservation in nature.
3. In Manusmriti, use of Kusha as a business commodity is strictly denied (10/88). In business there must be adulteration, hoarding and monopoly. To save the plant from such negative impacts, such socio-ethical rules were framed in the Vedic age.
4. Keeping in view, the ambiguous available possibility of Kusha everywhere, in the epic 'Grushya Sutra' nine alternates are suggested. Out of that, six are plants and

other three are gold, silver and copper. In absence of any plant material a worshiper can perform his Puja wearing a gold, silver or copper ring. The following six plants are also named as Drabha with respect, but their quality as Kusha is not reflected in any religious epics or Veda. They are:

1. *Saccharum spontaneum* L. (Chadhiya, Kaasatandi).
2. *Saccharum munja* Roxb (Munjakansa, Saratrana)
3. *Cynodon dactylan* (L) Pers. (Durba).
4. *Hordeum vulgare* L. (Barley, Jaba)
5. *Triticum aestivum* L. (Gahama, Gahuun, Wheat)
6. *Aristida setacea* Retz (Balwaja, Khada ghasa)

In the epic 'Haaretaha' it is mentioned that, one can use any of the above alternate plants as Drabha, but should not use an impure Kusha available in the following form.

1. Thrown away or grown in a pathway.
2. Thrown or grown in a burial ground
3. All ready used Kusha in a *Yajnya* function.
4. After use of Kusha in *Tarpana* (water offer) *Pindia Daana* (food offer) and other work of *Pitru Karma*.
5. A Kusha available at a place of urination and offal.

The above descriptors elevates the status of Kusha and conserves its integrity. It is rightly reflected in 'Satapatha Brahmana' (7.3.2.3): "*Tai hee Sudhaa Meedhya*" - you are only pure and intelligent (Oh Kusha!).

Now a days Kusha is sold in the market (may be against Manusmriti). It is difficult to know its integrity. Still people run to the nature for its collection on the specific day. The whole Hindu community is bound to perform different rituals in presence of Kusha. The alternate plants are side tracked. Either we are aware or not aware of the right meaning of different rituals, we follow these as tradition and culture. The religious feelings are deep inside the heart of very Indian like the genes of a biological cell. No doubt, our culture is temporarily effected by negative external vibrations and activities, but it stands like a Kusha grass on its substratum. Atharva Veda has focused "Oh Drabha! you save us from the external enemies". Uncivilisation is the greatest enemy of our culture that was long back realised by our ancient sages and seers. They have reflected accordingly to save the culture from external agents like the great Drabha.

In India we use a number of plants and their products for the purpose of Puja and rituals. Amongst them (other than Kusha) Tulasi (*Ocimum basilicum*) and Bilwa (*Aegle marmelos*) leaves are abundantly consumed throughout the country. But, the deficiency of these leaves are never felt anywhere, any time. Because, these two plants are profusely cultivated and maintained. People earn some money out of their business. Why not we accept this technique for Kusha? For this we have to change our attitude a little, which is not unfair; but most congenial and scientific for the conservation of this Vedic age famous plant. Let us not look for a day to import this plant from Africa and other Asian countries for the purpose of our religious rites.

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Paper received for publication on April 2017
Paper accepted for publication on July 2017