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Pinaki Adhikary

Department of Forestry, North
Eastern Regional Institute of
Science & Technology, Nirjuli,
Arunachal Pradesh, India

Tejashwini Gajurel

Neerja Modi School, Mansarovar,
Jaipur, Rajasthan, India

Soyala Kashung

Department of Forestry, North
Eastern Regional Institute of
Science & Technology, Nirjuli,
Arunachal Pradesh, India

Tage Yakang

Department of Forestry, North
Eastern Regional Institute of
Science & Technology, Nirjuli,
Arunachal Pradesh, India

Corresponding Author:**Pinaki Adhikary**

Department of Forestry, North
Eastern Regional Institute of
Science & Technology, Nirjuli,
Arunachal Pradesh, India

Promotion of traditional knowledge systems of herbal medicines among school students through development of herbal gardens in school premises

Pinaki Adhikary, Tejashwini Gajurel, Soyala Kashung and Tage Yakang

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Abstract

Identification and utilisation of medicinal plants is one of the most important aspects of traditional health management systems. India is bestowed with a rich diversity of medicinal plants and traditional knowledge systems. Due to the modernization and our changing systems, the uses of traditional medicines have been disappearing. To revive the rich traditional health care practises with the recognition of valuable herbs, awareness and education at the school level are focused throughout the country. Based on the high recognition of species in the Indian systems of medicine, easy propagation, and adaptabilities of species in tropical and subtropical climates, 20 (twenty) plant species have been selected which may be found suitable for the development of herbal gardens in school premises. The botanical identity, traditional uses, propagation techniques and plantation pattern is discussed.

Keywords: Medicinal plants, traditional uses, herbal garden, school, propagation and plantation

1. Introduction

Since ancient times, human beings have been getting therapeutic support from the various plant resources available in and around their habitation. Although today's modern health care system has become highly advanced, the masses of many nations are still relying on traditional health care practices. As per the World Health Organization 2019 report, traditional medicine has been an integral part of health management for centuries in different communities. Around 88% or 170 countries are estimated to use traditional medicine in the form of herbal medicines, acupuncture, yoga, indigenous therapies etc [1]. The use of herbal medicines, or herbalism, has been adopted successfully by many nations. The ancient Indians, Chinese, and Europeans used medicinal herbs successfully for healing purposes. Herbal ingredients are found in nearly half of all prescription and over-the-counter drugs used in mainstream medicine, including aspirin, digitalis, atropine, and various anticancer drugs [2]. The use and application of herbs in modern drug formulation by the pharmaceutical industry is due to the advancement of phytochemical experimentation techniques. Herbal medicines have been used for health care in India since the prehistoric era. Ayurveda, Siddha, Unani, and homeopathy are practiced in India as non-allopathic systems and have gained worldwide recognition [3]. The ancient literature like *Ayurveda* and *Sushruta Samhita* depicts the successful story of herbal medicine in the health care system. The four Vedas, considered the oldest Indian literature (5000–1000 BC), contain information about natural remedies. *Caraka Samhita* (focusing on internal medicine) and *Susruta Samhita* (focusing on surgery) were written systematically and considered to be classical texts of Ayurveda [4]. India is bestowed with numerous medicinal plants, many of which are effective for general health care. The old traditional practices inherited through generations in the country are now vulnerable. Numerous species, like Tulsi, Amla, Hartaki, Aswagandha, Satavari, Kalmegh, Giloi, Amrud, Neem, Vasak, etc., are recognized medicinal plants used in Ayurvedic formulations and other Indian systems of medicine [5]. More than 70% of the population of rural India is dependent on the traditional Ayurvedic system of medicine for primary healthcare [4]. A number of drugs discovered through research and experiments from different plants that have been used in Indian traditional medicine, like vasicine and vasicinone from *Adhatoda vasica*, bacosoids from *Bacopa monnieri*, morphine and codeine from *Papaver somniferum*, sarsasapogenin, asparanin A and asparanin B from *Asparagus adscendens*, shatavarin from *Asparagus racemosus*, atropine from *Atropa belladonna*, glycyrrhizin from *Glycyrrhiza glabra*, aloin from *Aloe vera*, quinine from *Cinchona* spp. etc. So the efficacies of these medicinal plants are already established [6].

Hence, it is important for all of us, particularly the younger Indian generation, to learn herbal medicine and identify the common species that can be used in daily life. It has been found that the younger generation of the country is even not able to recognise the common valuable medicinal species like Pipali, Tulsi, Neem, Hartaki, Vasaka, etc. The common ethnobotanical practises of medicinal plants are almost disappearing from household life and society. Education with practical knowledge in schools and colleges can play a vital role in regaining the endangered knowledge of the country. The Government of India, through the National Medicinal Plant Board (NMPB) provides financial assistance for setting up herbal gardens in schools in order to sensitise the students about conservation of the rich biodiversity and in particular the role of medicinal plants in providing holistic health care both in traditional and modern systems of medicine [7]. However, even after the NMPB initiative, most school grounds, even in rural areas, lack an herbal garden or herbal plants. An attempt has been made here to select the best 20 species of medicinal plants that can be propagated easily, either in the field or even in pots, particularly in the tropical and subtropical belts of the country.

2. Materials and Methods

The information on important medicinal plants mostly used in Indian systems of medicine was collected from databases like Traditional Knowledge Digital Library [8], IMPPAT [9] and other relevant published literature. Based on the recognized values as well as the possibilities of common uses of herbs for the school students during school hours, and their acclimatization in tropical and subtropical climates, the 20 best species of medicinal plants have been identified. The methods of propagation and cultivation of these species have also been collected and studied. Most of these species have been propagated using vegetative methods in the nursery of the forestry department at NERIST. The success of these species has been noted in both pots and fields.

3. Results and Discussion

3.1 Potential medicinal herbs for herbal garden

Based on the easy propagation, growth, and use possibilities, 20 species of herbal medicines have been identified and selected. The details of the botanical identity and uses of these species, indicating their common or trade names, are listed in Table 1. The well-known species like Tulsi, Neem, Vasak, Bhingiraj, Bael, Brahmi, Kalmegh, Long Peeper, Black Peeper, Kumari etc. that are being used traditionally and regularly for day-to-day health care are selected. It has been found that in the majority of the species, the leaves and aerial parts are used, facilitating their ease of use. Satmool (*Asparagus racemosus*) is the only species where the used part is the root only. As the process of extraction of roots and their use is comparatively laborious, so we avoided keeping more species where the root is the only part to be used. Many of the species included can easily be used by the students for their own use in school time or for their family members at home through sustainable harvesting. When a student suffers from cough, cold, and fever, the leaves or fruits of species like Tulsi, Vasak, and Pipali can be used. On the other hand, for diarrhoea and indigestion, the plant parts of Amrud, Hartaki, Bael, etc. could be used. For cuts, burns, and wounds, we can use the parts of Kumari, Bhringiraj, Tulsi, and Amrud. For quick and easy availability of parts for uses, herbaceous annual species are always preferred, and hence we have included 7 herbal plants that can be harvested within a few

months of plantation. On the other hand, seven species of trees are selected, which are very well-known plants in Indian systems of medicine and grown throughout the country. The trees are Neem, Amrud, Bael, Aamla, Jamun, Karmaranga, and Hartaki. The four plants, namely Amrud, Aamla, Jamun and Karmaranga, can be taken commonly as raw fruits by the students, which supplement vitamins, minerals, and nutrients. Planting of these species in the school premises will definitely help the students identify these valuable herbs and their uses. The photograph of some species is also provided (Fig 1.)



Fig 1: Photographs of some important plants used in traditional herbal medicine

3.2 Propagation techniques

The general propagation and cultivation methods of 20 selected species have also been provided in Table 2 for the initiation of the development of the herbal gardens. Although seedlings from other places can be brought into the school and planted, it is advisable to learn some basic methods of raising the plants in the school through propagating the plants. It would help the students learn nursery and plantation techniques, the knowledge of which could be used by them in the management of their home gardens. Small nursery beds (1.5 x 5 m) can be made in some free space using an agros shade net. The soils of the nursery beds should be prepared by mixing soil, sand, and compost or cowdung, preferably 2:1:1. Water logging should be avoided, but beds need to be moist.

The prescribed propagation methods may easily be followed for the propagation of the selected species. Out of the 20 selected species, 11 species including all the tree species can

be propagated only through seeds. Besides the tree species, the other species that can only be propagated through seeds are *Andrographis paniculata* (Kalmegh), *Ocimum basilicum* (Indian basil) *O. tenuiflorum* (Sacred basil). However, the other species can be propagated both from seeds and vegetative means using stems, suckers, or rhizomes. The species that can very easily and quickly propagate through stem cuttings are *Bacopa monnieri*, *Murraya koenigii*, *Justicia adhatoda*, *Piper longum*, *P. nigrum* and *Tinospora cordifolia* (Fig. 2)



Fig 2: Some herbal plants propagated successfully through stem cuttings in Nursery of Forestry department, NERIST

3.3 Pattern of Plantation

Plantation in Field

Normally, most of the schools have premises in front of them. The areas, particularly along the boundary and along the front of the building without disturbing the play grounds or activity areas, can be successfully used for herbal plantations. It is seen that plantations can be done with herbaceous plants and shrubs in rows in front of the corridor, and moreover, plantations around the perimeter of the school with shrubs and trees. The herbs like *Justicia* (Vasaka), *Andrographis* (Kalmegh), *Piper* (Pipali), *Ocimum* (Tulsi) *Asparagus* (Satmool), etc. can easily be planted in lines of one or two rows (maximum 4 feet wide and as long as the school building) protecting by rectangular fence. The fruit trees like *Terminalia chebula* (Hartaki), and *Phyllanthus emblica* (Amla) are the important components of *triphala* composition of Ayurveda that can be used in the boundary line, and these trees can be utilised as support to the herbal climbers like *Tinospora cordifolia* (Gilo) and *Piper nigrum* (Black pepper). The *Justicia adhatoda* (Vasaka) is a good option as hedge planting on the school campus.

Block plantations using the trees, shrubs, climbers, and herbs can be in larger free spaces in the form of square, rectangular, or circular blocks. Herbs, shrubs and climbers can be used as under stories in tree plantations. Trees should be planted at least at 8 x 8 m distances, and shrubs and herbs can be accommodated under the trees. The herbs, particularly the *Centella asiatica*, *Piper longum* and *Bacopa monnieri* are shade loving, grow well in shade, and can be planted under the trees. The vines like *Piper nigrum*, *Tinospora cordifolia* would be allowed to climb with the trees.

Plantation in Container


The herbaceous medicinal plants can easily be grown in containers. When we do not have enough area for field

plantations, an herbal garden can be made using containers. Even along with the field plantations, containers can be used in parallel for beautifying the school corridor and campus. In case of non-availability of land, a vertical garden can be made using a container, placing one row above another on a suitable platform made up of different materials. Bamboos may become good options for the same. Containers are of several types and can be used for successful planting or growing medicinal herbs. The common ones are earthen or clay pots, poly bags, plastic pots, concrete or cement pots, ice cream containers, planter boxes, etc. The selection of containers depends on the types of plants or number of individuals to be grown and also on the specific place to be used for placing the containers. All these containers should have an adequate drainage system to prevent water logging and avoid root infection and damage. Multi-tier pot stands (with three to four tiers) can be successfully used in the school corridor and balcony to arrange the medicinal plants in limited space and ornamentation. A large number of varied stands are commercially available in the markets. This practise may also become a way of beautifying school buildings and campuses. Besides the above species, numerous other herbs used in traditional medicines can also be grown with their proper identity. In India, almost 8000 species of medicinal plants are used by different communities, whereas about 1800 species are used in Indian classical systems of medicine [10]. These medicinal plants are being used regularly by different communities to cure almost all types of health ailments. In general, the most common and regular health problems that are commonly found for all age groups mostly for children are fever, cough, and cold, diarrheal dysentery, cuts, and burns, etc. So for curing such problems, the most suitable species frequently used are *Ocimum*, *Piper*, *Psidium*, *Justicia*, *Eclipta*, etc., which are included here for the herbal garden. The students must have knowledge of the utility of these species, which may play a vital role in reviving the traditional health management system in the society. Indigenous and traditional systems of medicine using plants have shown potential (direct or indirect as immune boosters) against many dreaded ailments, including the recent global pandemic of COVID-19 [11]. So it is now very relevant to introduce and initiate the plantation of the important medicinal plants in home gardens, school gardens, and campus premises for mass awareness and management of the species. Promoting the herbal garden in the school could be the best way to propagate both the plants and the knowledge of herbal medicines. School students must learn the fundamentals of traditional medicine systems, as well as cultivation and management practices that benefit households and societies.

In Nepal, ICIMOD has taken an initiative to strengthen "Herbal Gardens" in schools by establishing herbal gardens in as many schools as possible across the nation and raising awareness on the use of medicinal and aromatic plants among students, teachers, families, and across communities [12]. Collection and growing medicinal plants for the development of an herbal garden in the school have been successfully initiated by the teachers and students in Government UP School in Nemon, Kerala. Such activities have helped in the creation of awareness among the students and parents regarding the importance of herbal medicines [13]. The Centre for Environment Education (CEE), Govt. of Andhra Pradesh, India, in collaboration with the National Medicinal Plants Board (NMPB) and the Andhra Pradesh Medicinal and Aromatic Plants Board (APMAB), have implemented the project 'Development of Herbal Gardens' in schools to

sensitize the students about the importance of medicinal plants in daily life and to develop skills for maintaining herbal gardens. It also focuses on community participation in herbal garden development in schools in order to make this process learning and sharing experience [14]. The maintenance of an herbal garden on the school campus with routine activities will definitely help the student communities in the promotion

of the herbal health care system in the country. The schools should take the initiative through the teachers for the planting of species and the display of valuable information about each species selected and planted. The details of the traditional and pharmaceutical uses of the species planted with colour photographs must be provided in the display charts. A draft of the display chart is given in figure 3.

Botanical name	: <i>Aloe vera</i> (L.) Burm. f.	
Family	: Asphodelaceae	
Common name	: Indian aloe / GhritKumari	
Local name*	: Chal-kuori	
Habit	: Herb	
Parts used	: Succulent leaves	
Uses	: Skin disease, piles, fever, constipation, jaundice, haemorrhoid, burns and bruises	
Propagation	: The plant can be propagated easily from the suckers. Around 3-4 months old suckers having 4-5 leaves and about 20-25 cm in length can be used as planting material.	

* The local name should be as per the locality of the school. Here the local name is in Assamese.

Fig 3: A display chart to be used in schools for medicinal plants of herbal gardens

Table 1: List of (20) twenty selected herbal plants based on traditional system of medicine

Sr. No.	Common name /	Botanical name	Family	Parts used	Used for
1	Indian bael/ Bel	<i>Aegle marmelos</i> (L.) Correa	Rutaceae	Leaves, fruit pulp, flower, stem bark, root bark	Bronchitis, dysentery, diarrhoea constipation, ulcer [9, 15]
2	Indian aloe/ Kumari	<i>Aloe vera</i> (L.) Burm. f.	Asphodelaceae	Succulent leaves	Skin disease, piles, fever, constipation, jaundice, haemorrhoid, burns and bruises [9, 16]
3	Green chiretta/ Kalmegh	<i>Andrographis paniculata</i> (Burm. f.) Wall.	Acanthaceae	Aerial parts, leaves, roots	Intestinal worms, fever, common cold, malaria and tonic [9, 17]
4	Indian asparagus/ Satmool	<i>Asparagus racemosus</i> Willd.	Asparagaceae	Roots	Indigestion, hypertension, piles, debility, brain tonic, and epilepsy [9, 18]
5	Star fruit/ Karmaranga	<i>Averrhoa carambola</i> L.	Oxalidaceae	Fruit	Fever, haemorrhoid, diabetes, diarrhoea [9, 19]
6	Neem	<i>Azadirachta indica</i> A. Juss.	Meliaceae	Leaves, bark, flower, gum, seed pulp	Intestinal worms, skin ulcer, cough, asthma, ringworms, tuberculosis, arthritis, fever, malaria, rheumatism, jaundice [9, 20]
7	Herb of grace/ Brahmi	<i>Bacopa monnieri</i> (L.) Wettst.	Plantaginaceae	Aerial parts	Enhancing memory, anxiety, skin disorders, digestive complains, fever, nerve disorder [9, 21]
8	Indian penny wort/Gotu kola	<i>Centella asiatica</i> (L.) Urb.	Apiaceae	Aerial parts, roots	Enhancing memory, skin diseases, inflammation, nervine disorder, diarrhoea, dehydration, epilepsy, hysteria, rheumatism [9, 22]
9	False daisy/ Bhingraja	<i>Eclipta prostrata</i> (L.) L.	Asteraceae	Leaves, stem, roots	Wounds, hair loss prevention, respiratory disorders, jaundice, diabetes, fatigue, and fever [9, 23]
10	Malabar nut/ Vasaka	<i>Justicia adhatoda</i> L.	Acanthaceae	Leaf, fruit, flower, root	Asthma, joint pain, cold, cough, intestinal worms, bronchitis, tuberculosis, diarrhoea, dysentery, skin disease [9, 24]
11	Curry plant/ Kari patta	<i>Murraya koenigii</i> (L.) Spreng.	Rutaceae	Leaves, stem bark, roots, fruits	Dysentery, diarrhoea, vomiting, piles, inflammation, itching, fungal infection [9, 25]
12	Common basil/Tulsi	<i>Ocimum basilicum</i> L.	Lamiaceae	Leaves	Ringworm, skin rashes, headaches, coughs, diarrhoea, insect stings [9, 26]
13	Sacred basil/Krishna thulasi	<i>Ocimum tenuiflorum</i> L.	Lamiaceae	Leaves	Common cold, cough, fever, jaundice, blood pressure [9, 27]
14	Indian gooseberry/ Amla	<i>Phyllanthus emblica</i> L.	Phyllanthaceae	Fruits	Cough, asthma, skin diseases, leprosy, anaemia, jaundice, bronchitis, haemorrhages [9, 28]
15	Indian Long	<i>Piper longum</i> L.	Piperaceae	Fruit, stem, root	Bronchitis, asthma, cough, cold and fever [9, 29]

	Pepper/Pippili				
16	Black pepper/Kali mirch	<i>Piper nigrum</i> L.	Piperaceae	Fruits	Cold, cough, bronchitis, asthma, fever, muscular pain [9, 30, 31]
17	Common guava/Amrud	<i>Psidium guajava</i> L.	Myrtaceae	Tender leaves	Wounds, cuts, ulcers, boils, dysentery, and diarrhoea [9, 32]
18	Black plum/Jamun	<i>Syzygium cumini</i> (L.) Skeels	Myrtaceae	Fruit	Cough, diabetes, piles dysentery, pimples ringworm, diarrhoea, digestive complaints, stomach pain [9, 33]
19	Myrobalan/ Hartaki	<i>Terminalia chebula</i> Retz.	Combretaceae	Fruit	Chronic diarrhoea, asthma constipation, ulcer, cough, skin disease [9, 34]
20	Heart-leaved moonseed / Giloy / Guduchi	<i>Tinospora cordifolia</i> (willd.) Miers ex Hook. f. & Thomson	Menispermaceae	Leaf, stem, bark, root	Cold, fever, headache, digestive disorder, skin disease, immune booster, asthma, jaundice [35]

*Skin diseases, rheumatism, inflammation, syphilis, mental illness, epilepsy, hysteria, dehydration, and diarrhea

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Table 2: Selected herbal plants with botanical name, habit, propagation type and methods

Sl. No.	Species	Habit	Propagation	Methods
1	<i>Aegle marmelos</i> (L.) Correa	Tree	Seed	Fresh seeds can be sown 2-3 cm deep in the nursery within 8-10 days after extraction. The fresh bael seeds germinate in 10-15 days after sowing during summer. Vegetative propagation is the preferred method for cultivation.
2	<i>Aloe vera</i> (L.) Burm. f.	Herb	Sucker	Suckers are the propagating material for cultivation. Around 3-5 months old suckers having 4-5 leaves and about 20-25 cm in length can be used as planting material.
3	<i>Andrographis paniculata</i> (Burm. f.) Wall.	Herb	Seed	Seeds are the preferred propagating material for cultivation. Mature seeds are generally soaked in water for 24 hours before sowing. Seeds are sown in well-prepared and raised nursery beds containing good amount of farm yard manure.
4	<i>Asparagus racemosus</i> Willd.	Climber	Seed/crown rhizome	Seeds are the preferred propagating material for cultivation. Seeds are sown in well-prepared and raised nursery beds containing good amount of farm yard manure. The seedlings are ready for transplanting after 45 days of sowing.
5	<i>Averrhoa carambola</i> L.	Small tree	Seed	Seed can be used as propagating material. Seeds need to be planted immediately after removed from the fruits. Seed must be covered in about 0.25 inches of soil and germination process takes between one to three weeks. Vegetative propagation is the preferred method for cultivation.
6	<i>Azadirachta indica</i> A. Juss.	Small tree	Seed	Fresh seeds are the preferred propagating material. Mature fruits are soaked in cold water for few hours and pulp is removed for maximum germination. De-pulped seeds should be sown in nursery beds made of fine river sand at a depth of 1 to 2 cm.
7	<i>Bacopa monnieri</i> (L.) Wettst.	Herb	Shoot cuttings	Shoot cuttings are the planting material for cultivation. The freshly collected shoots of 5-10 cm length bearing internodes and rootlets should be planted in the well-prepared beds followed by light irrigation.
8	<i>Centella asiatica</i> (L.) Urb.	Herb	Rooted suckers/ cuttings	Rooted suckers or cuttings are the best planting material for cultivation. Rooted suckers or shoot cuttings bearing a few leaves, nodes and roots should be planted in the well-prepared beds followed by irrigation.
9	<i>Eclipta prostrata</i> (L.) L.	Herb	Stem cutting	Stem cuttings can be used as propagating material. Stem cuttings are generally used for mass propagation. Terminal stem cuttings of 10-15 cm length having 4-6 nodes are planted in well prepared nursery beds or polythene bags.
10	<i>Justicia adhatoda</i> L.	Shrub	Stem cuttings	Terminal or lateral stem cuttings are used as propagating material. Cuttings of 15-20 cm long and 3-4 nodes are planted in poly bags filled with potting mixture prepared using farm yard manure/vermi compost, top soil and sand.
11	<i>Murraya koenigii</i> (L.) Spreng.	Shrub or small tree	Stem cuttings/ seed/suckers	Stem cuttings are the best propagating material. Cuttings 15-30 cm long with few leaves are planted in a well prepared nursery beds or polythene bags using farm yard manure. Remove the leaves from the bottom of the cuttings before planting. Regular watering is recommended till the new sprouting.
12	<i>Ocimum basilicum</i> L.	Herb	Seed	Seeds are the preferred propagating material for cultivation. Seedlings are first raised in the nursery and then transplanted to the field. Raised seed beds of 10 - 15 cm height should be thoroughly prepared by the addition of well rotten farmyard manure and mixed well into the soil. The seeds are then covered with a thin layer of fine soil or farm yard manure. The nursery beds are watered immediately after sowing regularly.
13	<i>Ocimum tenuiflorum</i> L.	Herb	Seed	Seeds are the preferred propagating material for cultivation. The seeds should be sown 2-3 cm deep in the well prepared beds. After sowing the seeds, a mixture of Farm Yard Manure and soil is thinly spread over the seeds and irrigated with a sprinkler hose. The seeds germinate in 10-12 days and the seedlings are ready for transplanting in about 6-7 weeks time, at the 4-5 leaf stage.
14	<i>Phyllanthus emblica</i> L.	Tree	Seed	Seeds are sown in well-prepared beds with well-decomposed Farm Yard Manure. The seeds are mixed with dry soil or sand to allow uniform distribution of seeds on the nursery bed. 30-40 day old seedlings, which are 10-15 cm tall are transplanted at a spacing of 15x15 cm.
15	<i>Piper longum</i> L.	Climber	Stem/rooted vine cuttings	Stem or rooted vine cuttings are the propagating material for cultivation. Three noded cuttings (8-10 cm long) from any part of the stem can be planted directly into bed or can be raised in a poly bags.
16	<i>Piper nigrum</i> L.	Climber	Stem cuttings	Stem cuttings are the preferred propagating material for cultivation. Lateral branches or

				runner shoots with 2-3 nodes are separated from vines. Cuttings can be planted either in nursery beds or in polythene bags filled with potting mixture.
17	<i>Psidium guajava</i> L.	Small tree	Seed	Seeds should be sown immediately after extraction from fruits. Soaking of seeds in water for 12 hours before sowing in the nursery bed. Vegetative propagation is the preferred method for cultivation.
18	<i>Syzygium cumini</i> (L.) Skeels	Tree	Seed	Fresh seeds are the best propagating material for cultivation. Seeds can be sown (within 10-15 days) 4-5 cm deep at a distance 25 cm x 15 cm. Germination generally takes place 15-20 days after sowing.
19	<i>Terminalia chebula</i> Retz.	Tree	Seed	Seeds are the propagating material for cultivation. The depulped seeds should be clipped at their broad end and then soaked in water for a period of two days before sowing in the bed.
20	<i>Tinospora cordifolia</i> (willd.) Miers ex Hook. f. & Thomson	Climber	Stem cuttings	Stem cuttings are the best propagating material for cultivation. Cuttings obtained from older stems with nodes should be sown within 24 hours. The stem cuttings can be planted directly in the field.

4. Conclusion

Developments of herbal gardens in school premises using the important medicinal plants assume special significance in societies. It will directly benefit the student communities to gain practical knowledge to identify valuable medicinal plants, their uses, and gardening practices. The students of secondary classes need to be actively involved in the development of the gardens. The detailed information in the display charts along with living plants may serve as one of the best practises in disseminating knowledge about the traditional herbal uses in the school premises. However, the knowledge gained by the students will help them to educate the common masses in the societies. If all the schools take up the initiative, all the students will get involved in the process, which in turn helps to raise awareness among all the people. This could be the most effective and low-cost method of raising awareness and educating the public regarding the uses of medicinal plants and preserving traditional heritage.

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