



RESEARCH ARTICLE

Ethnobotany of Washim District (M.S.) India

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ABSTRACT

Present paper documents 106 plant species belonging to 44 families used by rural and tribal people of Washim district. Eighty-one species are used to treat human ailments – 56 species being used in monoherbal treatments while, 31 species are used in polyherbal formulations. Ten species are used as veterinary medicine. Eighteen species are edible; while six are used for miscellaneous purposes.

Keywords: Ethnobotany, Washim district, Human medicine, Veterinary medicine, Wild edibles.

INTRODUCTION

Use of plants as food and to cure various ailments is as old as human history. Ethnobotanical studies in India has a long history, the pioneer work being done by Late Janki Ammal. Various institutions have also worked for documentation. Publications and Information Directorate, New Delhi published Glossary of Indian Medicinal Plants (Chopra et al. 1956) and its supplement in 1969 (Chopra et al.). National Institute of Science and Communication, New Delhi has published an exhaustive data of about 700 medicinal plants (Chatterjee and Pakrashi 1992-2001). Ministry of Environment and Forests, Govt. of India undertook 'All India Coordinated Research Project on Ethnobiology' in 1982. It took about 12 years to complete the survey that was published in 1994. The exhaustive survey carried out for 12 States including Andmans resulted in reporting 9500 wild plant species used by tribals for meeting their varied requirements; of which 7500 species are used for medicinal purposes (Anonymous 1994). Jain (2012) has enumerated 2500 species and 15000 folk uses. Hundreds of papers are published till date reporting wild plants used in various states and documentation still continues.

Washim is one of the 35 districts of Maharashtra. The district lies between the longitudes 76° 7' to 77° 4' East and between parallels of latitudes 19° 7' to 21° 6' North. It has total area of 5095 sq. km.; general climate is hot and dry.

Washim district has experienced changes in its status over the time. In 1875 Washim district was created; it contained only three talukas – Washim, Mangrul and Pusad. In 1905, the district was denotified and merged in Akola district. Again, the district was recreated on 1st July 1998 including six talukas viz. Washim, Risod, Karanja, Manora, Malegaon and Mangrulpir. According to 2011 census 82.34% population of the district resides in villages. Ten tribes are found in the district. These are – Andh, Gond, Raj Gond, Arakh, Pardhi, Advichincher, Mahadeo-koli, Donger-koli, Thakar and Thakur; Andh is the largest (63577 people), while smallest group is Koli – Mahadev-koli and Donger-koli together being only 3689.

MATERIALS AND METHODS

Medicine men (vaidus) were interviewed personally to get firsthand information about medicinal plants and their mode of use in local health practices. Some collective meetings were also arranged. Both human health practices and veterinary were noted. Plants were collected from field with them and identified with the help of standard floras (Cooke 1967, Naik 1998, Sharma et al 1996, Singh and Kartikeyan 2000, Singh et al 2001). Herbarium specimens were prepared and deposited in the herbarium of Govt. Vidarbha Institute of Science and Humanities, Amravati. For recent nomenclature Plant Names Index, Plants of The World Online (POWO) were referred. Both medicinal and wild edible plants used locally were recorded. Few miscellaneous uses were also recorded. Local names of the plants were noted (given in italics).

RESULTS

MONOHERBAL TREATMENTS

Abelmoschus manihot (L.) Medic. (Malvaceae); 'Ranbhendi'

Dried seeds powdered and one spoonful of powder given with milk to treat night ejection.

Acanthospermum hispidum DC. (Asteraceae); 'Gokharu'

Mature whole plant is crushed with water and juice expressed. Half cup of juice – single dose – is given 3-4 times in a single day for kidney stone. Stone gets expelled in a single day.

Achyranthes aspera L. (Amaranthaceae); 'Aghada'

Aerial parts are half burned and black ash obtained is mixed with camphor and finely levigated with coconut oil. This is applied on wounds.

Aegle marmelos (L.) Corr. (Rutaceae); 'Bel'

- a) Two drops of leaf juice given to expel intestinal worms.
- b) 100 gm leaves are boiled in water to get one cupful decoction. This is given in piles.
- c) One glassful of leaf juice given to cattle in fever.
- d) Bark pounded and used as fish poison.

Ailanthus excelsa Roxb. (Simarubaceae); 'Maharukh'

- a) Leaf juice used to kill head lice.
- b) Leaves are crushed and juice expressed. This juice is applied over infected patches of skin for seven days in all types of skin diseases. Person should not take bath in these seven days.
- c) For intestinal worms leaf juice is applied on head and naval and one drop given orally.

Aloe vera Burm.f. (Liliaceae); 'Korphad'

Pulp of one mature leaf is mixed with lump sugar. This is divided into 18 parts. One part thrice a day is given for six days if urine excretion is not complete.

Ampelocissus latifolia (Roxb.) Planch. (Vitaceae); 'Jangli draksh'

Root pounded and juice given to cattle for dysentery.

Andrographis paniculata (Burm.f.) Wall. ex Nees (Acanthaceae); 'Bhui nimb'

Leaves are shade dried and made into powder. Half tea spoonful powder is given twice a day for 7 days in low grade chronic fever.

Anogeissus latifolia (Roxb. ex DC.) Wall. ex Guill. (Combretaceae); 'Dhawada'

Gum fried in ghee and laddus prepared in wheat flour. Used as tonic, gives strength.

Argemone mexicana L. (Papaveraceae); 'Vilayati dhotra, Pivala dhotra, Vilayati'

- a) Root is put into hairs of women for easy delivery.
- b) Root wrapped in cloth is tied around the arm to treat fever accompanied with shivering.
- c) One spoonful of leaf juice mixed with one spoonful of Ghee is given to treat the white spots developed due to vitamin B deficiency.
- d) Piece of root is given to eat in betel leaf once a day for three days in typhoid.
- e) Root pounded in water given in scorpion sting.
- f) Whole plant paste applied on old wounds.
- g) Root is tied around the horn of cow to reduce labor pains.

Azadiracta indica A. Juss. (Meliaceae); 'Kdu nimb'

Five gm of inner bark is boiled in two cupful of water to reduce to half. Decoction is given to cattles for desyntry.

Boerhavia diffusa L. (Nyctaginaceae); 'Pay pasari, Punarnava'

Leaf paste mixed with curd applied on gangrene.

Buchnania cochinchinensis (Lour.) Almida (Anacardiaceae); 'Charoli'

7-8 large, mature leaves are crushed in two cups of water; water becomes thick. This is divided into three doses and given in a single day to treat amoebiosis.

Butea monosperma (Lam.) Taub. (Fabaceae); 'Palas'

a) Root pounded in water and decoction given to reduce body heat.

b) Pulvinous of leaf pounded in water and decoction given in dry cough.

c) 3-5 flowers are soaked in water overnight. In the morning flowers are crushed in water and filtered. Lump sugar added to filtrate and given to drink. This is to combat body heat.

d) Seed levigate put into eyes of bullocks if there is any eye injury.

Caesalpinia bonduc (L.) Roxb. (Caesalpinaceae); 'Sagargoti'

Fourteen seeds are baked on fire and cotyledons powdered and mixed with powder of 14 baked cloves. This is then mixed with old jaggery and made into 28 tablets. Two tablets a day (one in the morning and evening) are given for 14 days in stomach ache.

Cassia fistula L. (Caesalpinaceae); 'Bahala, Bahava'

50 gm stem bark is boiled in two cup water till reduced to one cup. This is given three times a day in jaundice.

Cassine glauca (Roxb.) O. ktze. (Celastraceae); 'Bhutkesi'

Leaves are boiled in water, some salt added. Warm decoction is slowly poured on the leg of the cattle suffering with *khuri* disease (Infection of hoof).

Catunaregam spinosa (Thunb.) Triveng. (Rubiaceae); 'Fetara'

Root pounded in water and given orally in mad dog bite.

Cleome viscosa (L.) Jeffry (Cleomaceae); 'Pivali tilvan'

Leaf juice put into ear to cure earache and headache.

Curculigo orchoides Gartn. (Hypoxidaceae); 'Kli musali, Musalkand'

Tuber given to enhance lactation and to treat sexual debility in men.

Cyperus rotundus L. (Cyperaceae); 'Lavhali'

Tuber pounded in water and decoction given orally for 8-10 days in stomach problems.

Dendrophthoe falcata (L.f.) Etting (Loranthaceae); 'Kawarka'

Plants growing on *Diospyros melanoxylon* ('Temru') is collected, dried and powdered. Powder given in fever.

Diplocyclos palmata (L.) Jeffry (Cucurbitaceae); 'Gavlan, Shivlingi'

Leaf either crushed or mixed with jawar roti given to cattles in tympany.

Dolichandrone falcata (Wall. ex-DC.) Seem. (Bignoniaceae); 'Medhshingi'

Leaves are boiled in water and this hot water is slowly poured on wound; has wound healing effect.

Dioscorea bulbifera L. (Dioscoreaceae); 'Parat kand, Nagyel'

a) Piece of bulb if given to eat with beetle leaf, induces sleep.

b) Tubers are sliced (locally called *Chendadi-kand* in Manora region); slices are kept in wood ash overnight, then clean washed and fried in oil. These are given to eat in dyspepsia.

Enicostema axillare (Lam.) Raynal (Gentianaceae); 'Nay'

a) Leaf juice given to treat persistent low grade fever.

b) Leaf powder used in intestinal ulcers. One spoonful powder given in morning on empty stomach with honey till cure.

Euphorbia thymifolia L. (Euphorbiaceae); 'Barki gondan'

Juice of plant is given with milk in acidity.

Ficus benghalensis L. (Moraceae); 'Vad'

Latex applied over piles thrice a day.

Grewia tilifolia Vahl (Tiliaceae); 'Dhaman'

Roots pounded in water and decoction given in dysentery.

Hemidesmus indicus (L.) R. Br. (Asclepiadaceae); 'Ghat vel, Kawal vel'

6-7 leaves are boiled in two cups of water along with 2-3 leaves of *Tulsi* till one cup remains; this is single dose. Three doses are given in a day to cure diphtheria.

Ipomoea pes-tigridis L. (Convolvulaceae);

Leaf juice or leaves mixed with roti given in rabies.

Ixora pavetta Andr. (Rubiaceae); 'Lokhandi'

Bark is boiled in water and filtered. This filtrate is used to gargle in case of swollen, painful gums.

Jatropha curcus L. (Euphorbiaceae); 'Chandra jyoti'

5-6 drops of latex are put into regular tooth powder for toothache.

Lagerstroemia parviflora Roxb. (Lythraceae); 'Lenda'

a) Leaves crushed in buttermilk and applied on snake bite for three days. This is used on bite of *Eryx johnii* (locally called 'Phosphat'); the snake is nonpoisonous but bite results in swelling with inflammation.

b) 50 gm leaves are mixed with one spoonful of *Carum carvi* seeds ('Shahajeere') and boiled till it remains half. This is given in typhoid.

Lavendula bipinnata O. Ktze. (Lamiaceae); 'Ranbhang'

Leaves are burnt and crying child is exposed to its smoke; produces soothing effect.

Leonotis nepetifolia (L.) R. Br. (Lamiaceae); 'Dipmal'

Seed powder given orally thrice a day (only for two days) to treat bleeding piles.

Lepidagathis cristata Willd. (Acanthaceae); 'Sanj'

Plant paste applied on *Orthochirus* ('Ingali') sting.

Martynia annua L. (Martiniaceae); 'Wagh-nakhi'

Leaf juice is expressed and put into nostril to treat migraine. Juice is put in the opposite nostril of the aching head.

Ocimum americanum L. (Lamiaceae); 'Sabja, Shabda'

Leaf juice applied over maggotged wounds of cattle.

Opuntia elatior Mill. (Cactaceae); 'Pan savar, Nivdung'

Pulp of phylloclade mixed with turmeric powder is applied on fracture.

Phyllanthus lawii Grah. (Euphorbiaceae); 'Bhui Amala'

Leaves are pounded and decoction given to children in dysentery.

Ricinus communis L. (Euphorbiaceae); 'Erandi'

Young leaves are crushed to get juice. Four drops of juice are mixed with a cup of cow milk and given early in the morning for 3 days in jaundice.

Scilla hyacinthiana Mc Bride (Liliaceae); 'Titar-Bater'

Tuber paste applied on scorpion sting to reduce inflammation.

Semecarpus anacardium L.f. (Anacardiaceae); 'Biba'

a) A drop of seed oil is given with milk to children in cough.
b) To treat pneumonia in children 4-5 fresh seeds are pounded and oil extracted. First coconut oil is applied on the belly of the child, then very thin layer of calcium carbonate ('Chuna') is applied over it followed by a layer of oil extracted, lastly turmeric paste is spread over it and then badaged with cotton cloth. Supposed to cure pneumonia.

Sesamum orientale L. (Pedaliaceae); 'Til'

Leaves are put into water with occasional steering till it becomes slimy. This is given in diarrhea.

Sida cordata (Burm.f.) Van Borssum (Malvaceae); 'Dhurat zad'

Leaves are pounded with 'Lasun' (*Allium sativum*) and paste applied on whitlow.

Sterculia urens Roxb. (Sterculiaceae); 'Ghuira'

a) Stem bark boiled in water. Bath taken with water is supposed to cure rickets in children.

b) Gum of the tree is dissolved in water and some lump sugar added. This is given to drink in amoebic infection.

c) Gum fried in *Ghee* and laddus prepared in wheat flour. Gives strength in weakness.

Tagetes erecta L. (Asteraceae); 'Zendu'

Two flowers (capitula) are soaked in a cup of water and boiled to reduce to half. Decoction given in hemorrhagea.

Tamilnadia ulginiosa (Retz.) Tirveng. & Sastre (Rubiaceae); 'Tup kela'

Juice of leaves given to cattles for dysentery.

Tectona grandis L.f. (Verbanaceae); 'Sag'

- a) Seed levigated; one gm paste given as single dose in a day to the children in urinary problems, 2-3 doses can be given. Paste given to adults also to discharge accumulated urine.
- b) Fifty gm seeds are levigated and mixed with 50 ml water. This is divided into 14 doses. Given twice a day for 7 days to treat piles. Patient should take curd or buttermilk with meals.

Terminalia cuneata Roth (Combretaceae); 'Arjun Sadada'

Stem bark pounded with water; extract given in stomachache. The extract is also used to wash the wounds; helps in wound healing.

Tinospora cordifolia (Willd.) Miers. ex Hook.f. (Menispermaceae); 'Gulvel'

Stem boiled in water and decoction given for fever. Instead of decoction half tea spoonful stem powder also can be given.

Tridax procumbens L. (Asteraceae); 'Tangalmodi'

- a) Leaves are crushed and tied over scorpion sting.
- b) Leaves are mixed with jawar floor and *roti* prepared. It is fed to cattle to cure wounds infested with maggots.
- c) Root paste given in indigestion.

Ventilago denticulata Willd. (Rhamnaceae); 'Sakhalvel'

- a) Inner bark pounded and decoction given in the morning on empty stomach to reduce blood sugar. Leaf powder also used to treat diabetes.
- b) Stem bark boiled and decoction given in dysentery.
- c) 50 gm of root bark is boiled with a spoonful of 'Shahajeere' (seeds of *Carum carvi*) in two cups of water, till one cup remains. This is given as single dose twice a day for seven days to treat leucorrhoea and hemorrhagea.

Xanthium indicum Koen. (Asteraceae); 'Zingurda'

- a) Leaf juice is expressed and put into nostril to treat migraine. Juice is put in the opposite nostril of the aching head.
- d) Leaf crushed on palm and applied over decaying infected teeth.

POLYHERBAL FORMULATIONS – (Botanical names are given in italics in bracket, while common names are given outside)

1. 'Methi' seeds (*Trigonella foenum-graceum* L.) + 'Kadu jeera' seeds (*Cetrantherum anthelminticum* (L.) Ktze.) + cotyledons of 'Sagargoti' seeds (*Caesalpinia bonduc* (L.) Roxb.); 250 gm each are powdered together. One spoonful of powder given in the morning on empty stomach and after meals in the evening with luke-warm water for 41 days. This brings increased blood sugar to normal.
2. One kg leaves of 'Pandhari aphumari' (*Merremia aegyptica* (L.) Urb. and one kg leaves of 'Jamun' (*Syzygium cumini* L. Skeels) are dried and powdered; one spoonful powder is taken with luke-warm water twice a day in diabetes.
3. Two leaves each of 'Kadu nimb' (*Azadiracta indica* A. Juss.), 'Bel' (*Aegle marmelos* (L.) Correa. and 'Maharukh' (*Ailanthus excelsa* Roxb.) are mixed with five leaves of 'Taklan' (*Clerodendrum multiflorum* (Burm.f.) O.Ktze); crushed on palm and juice expressed. 2-3 drops of juice are put into milk and given four times a day to small children in pneumonia.
4. Fifty gm seeds of 'Tarota' (*Cssia tora* L.) are boiled with 50 gm of 'Nirgunda' (*Alectra parasitica* A. Rich.); decoction given on empty stomach in the morning and in the evening after meals for seven days in rheumatism.
5. Plants of 'Nirgunda' (*Alectra parasitica* A. Rich.) are dried, powdered and mixed with equal quantity of leaf powder of 'Hadsan' (*Blepharis repens* (Vahl.) Roth.). Laddus of this mixture are prepared with wheat flour. One laddu given every day in the morning every day for entire winter in arthritis.
6. Equal quantity of powder of 'Amla' (*Embllica officinalis* Gaertn.), 'Sonamukhi' (*Cassia senna* L.), 'Hirda' (*Terminalia chebula* Retz.) and black salt are mixed together. One small spoonful of powder taken thrice a day in acidity.
7. Leaves of 'Gudmar' (*Gymnema sylvestry* (Retz.) R.Br. ex Schultes), Seeds of 'Karle' (*Momordica charantia* L.) and that of 'Jamun' (*Syzygium cumini* (L.) Skeels) are powdered and mixed in equal quantity. One spoonful given twice a day for 30 days in diabetes.
8. 25 gm each of 'Gathi pimpli' (roots of *Piper longum* L.) 'Lendi pimpli' (fruit of *Piper longum* L.) + 'Kamarkas' (gum of *Butea monosperma*) + leaves of 'Hadsan' (*Blepharis repens* (Vahl.) Roth.) + seeds of 'Aliv' (*Lepidium sativum* L.) + 50 gm roots of 'Askand' (*Withania somnifera* (L.) Dunal) all are powdered together. One spoonful powder taken twice a day for 21 days in arthritis and rheumatism.
9. Bark of 'Babhul' (*Acacia nilotica* (L.) Willd.) and 'Hivar' (*Acacia leucophloea* (Roxb.) Willd.) are soaked in

water; alum added to it. This is used for gargling in toothache.

10. Dried 50 gm tubers of 'Safed musali' (*Chlorophytum tuberosum* Baker) + 25 gm tuber of 'Punjabi musali' (*Chlorophytum glaucoides* Blatt.) + 25 gm whole plant of 'Haran khuri' (*Ipomoea aquatica* Forssk.) are mixed with 50 gm lump sugar and powdered. One spoonful powder taken twice a day for 14 days in impotency or as aphrodisiac.
11. Juice of 'Haran khuri' whole plant (*Ipomoea aquatica* Forssk.) and leaves of 'Vasan vel' (*Cocculus hirsutus* (L.) Theob.) with lump sugar is given to reduce body heat.
12. Seeds of 'Tarota' (*Cassia tora* L.) + dried whole plant of 'Nirgunda' (*Alectra parasitica* A. Rich.) + dried leaves of 'Hadsan' (*Blepharis repens* (Vahl.) Roth.) + seeds of 'Methi' (Phenugreek) + seeds of 'Kangni' (*Celastrus paniculatus* Willd.) + 'Kharik'- fruit of date palm + Almonds + lump sugar; all are powdered together. One teaspoonful given in the morning and evening in rheumatism.
13. Leaves of 'Tantani' (*Lantana camara* L.), 'Ran tulas' (*Hyptis suaveolens* (L.) Poit.) + 'Ranbhang' (*Lavandula bipinnata* (L.) O. Ktze. Are mixed together and burnt on fire. Smoke given to treat trismus (locked jaw).
14. Leaves of 'Aghada' (*Achyranthes aspera* L.) are crushed with 'Tulsi' (*Ocimum sanctum* L.). The paste is applied to cure skin diseases.
8. *Goniocaulon indicum* (Klein ex Willd) C. B. Cl.(Asteraceae); 'Krad kosla, Karad kusumba'
Leaves are cooked as vegetable; also eaten raw as salad.
9. *Holarrhena antidysenterica* (Roth.) Wall. ex A. DC.(Apocynaceae); 'Kala kuda'
Flowers are boiled in water and water discarded. Flowers are made in to vegetable. Supposed to give immunity from seasonal fevers.
10. *Holostemma annulare* (Roxb.) K. Schum. (Asclepiadaceae); 'Kad dodi'
Tuber, leaves, flowers and young fruits used as vegetable. They are also eaten raw; taste sweetish.
11. *Lablab perpurens* L. (Fabaceae) - 'Jangli wal'
Fruits used as vegetable. Seeds from mature legumes used to make curry.
12. *Momordica cybalaria* Hook. (Cucurbitaceae) 'Kadvanchi'
Fruits used as vegetable.
13. *Momordica cymbalaria* Hook. (Cucurbitaceae); 'Kadvanchi'
Fruits used as vegetable.
14. *Scilla hycinthiana* Mc Bride. (Liliaceae); 'Titer Bater'
Leaves are used to make vegetable.
15. *Sloena amplexicaulis* (Lam.) Gandhi (Cucurbitaceae) - 'Ghorkakdi'
Fruits edible.
16. *Solanum nigrum* L. (Solanaceae) - 'Kamuni'
Ripe fruits edible.
17. *Sterculia urens* Roxb. (Sterculiaceae); 'Ghuira'
Bulbous young root edible; inner flesh eaten by children as taste food.
18. *Tamilnadia ulginiosa* (Retz.) Triveng. & Sastre (Rubiaceae); 'Tup kel'
Fruits used as vegetable.

WILD EDIBLES

1. *Abrus precatorius* L. (Fabaceae) - 'Gunj'
Leaves sweet. Eaten with bettle leaf. Also supposed to maintain the quality of voice; hence mostly used by singers.
2. *Bauhinia malabarica* Roxb. (Celastraceae); 'Chamel'
Young leaves edible; made into vegetable. Taste sour.
3. *Capparis zeylanica* L. (Capparidaceae)
'Waghate' Raw fruits are used as vegetable. Also marketed.
4. *Cassia tora* L. (Caesalpiniaceae); 'Tarota'
Seeds are roasted in *Ghee* and powdered. Decoction of powder is used to prepare drink like coffee / tea.
5. *Chlorophytum tuberosum* Baker (Liliaceae); 'Safed musali'
Leaves used as vegetable.
6. *Cucumis melo* L. (Cucurbitaceae); 'Shendadi, Sherni'
Mature fruits edible. Young fruits taste bitter.
7. *Glossocardia bosvellea* (L.f.) DC. (Asteraceae); 'Khadak shepu'
Leaves boiled with water, water discarded and vegetable prepared. Leaves also eaten raw as salad.

MISCELLENEOUS

1. *Combretum albidum* G. Don. (Combretaceae); 'Piu-Wel' - Leaves are best fodder for goats.
2. *Dioscorea bulbifera* L. (Dioscoreaceae); 'Parat kand' - While preparing country liquor, pieces of tuber are mixed with fermenting material. This makes liquor more strong.
3. *Gmelina arborea* Roxb. (Verbenaceae); 'Shivan, Chiman sag' - Wood used to make musical instruments.
4. *Lagenaria siceraria* (Molina) Standl. (Cucurbitaceae); 'Jangli Bhopla' - Mature fruits are dried and used to make musical instruments.
5. *Lanea coromandelica* (Houtt.) Meer. (Anacardiaceae); 'Mai' - Fruits used as fish poison.

6. *Vitex negundo* L. (Verbenaceae); 'Nirgudi' – Stems are used to weave panels for fencing.

DISCUSSION

Survey resulted in recording 106 plant species belonging to 44 families used by locals of the district. Of these 56 are used as monoherbal medicine. Ten species are used in the treatment of cattle; of these four are used both in the treatment of humans and animals. Thirteen polyherbal formulations using 32 species are used for treatment of human ailments; of these six are used in monoherbal treatments also. Use of wild edibles is common in rural areas; 18 wild edible species were noted. Six species were found to be used for the purposes other than medicinal or edible. Interesting is the use of *Gmelina arborea* wood for making musical instruments; however, these days this use is almost forgotten. Tribe wise survey if carried out in future will definitely enrich our knowledge of ethnobotany in the region.

CONCLUSION

Traditional health practices are the knowledge treasure. This is based on trial and errors. Need of the time is to validate these practices scientifically. Validation will result in providing easily approachable health facilities to the people living in remote areas.

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