

## Medicinal weeds of crop fields and role of women in rural health and hygiene in Nalbari district, Assam

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The paper presents 32 medicinally important weed species found in different crop fields along with some other plant species believed to have medicinal properties, which are being used by the rural people, particularly the women in Nalbari district, Assam. These weeds, although considered harmful to the crops, and are eradicated from the crop fields during cultural operation, may be fruitfully utilized to serve the medicinal purposes against various diseases. The herbal recipes recorded in the study may provide ample opportunities to study them critically for their efficacy and also for new drug development.

**Keywords:** Medicinal weed, Ethnomedicine, Hygiene, Assam

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The dependence of man on plant resources, especially for the medicinal purposes, is as old as the human civilization. People throughout the world use medicinal plants, and have great faith on them for their effectiveness due to their inherent medicinal properties. Relatively expensive allopathic treatment may further lead people, both of rural and urban areas, to depend on the herbal medicines<sup>1</sup>. Practice of pharmacognosy in India goes back to the *Vedic* period. The *Rigveda* claims about 99 medicinal plants, the *Yajurveda* 82 and the *Atharvaveda* 28, which were used to cure lots of deadly diseases. In the *Samveda* too, mention has been made of a good number of medicinal plants<sup>2</sup>. Ayurveda being the study of several drugs and their uses is the foundation stone of the ancient medicinal science of life and art of healing. *Charaka Samhita* and *Susrata Samhita* are the great ancient Indian ethics relating to the treatment of various diseases and ailments that reflect a glorious period of phytotherapy. It is interesting to note that the chemistry of natural products isolated both from flora and fauna during Ayurvedic period was well understood, at least for practical purposes<sup>2</sup>.

The North eastern region of India, being one of the hot spots of floristic diversity, offers immense scope for medicinal plant research. Numerous medicinal plants, their varied usages against various diseases/

ailments by different ethnic groups, community, etc. in different regions of the Northeast have been reported<sup>3-15</sup>. But no record regarding the practice of herbal medicines by the rural women especially in Nalbari district is available hitherto. The study is an innovative attempt that embodies the role of the rural women in the practice of herbal medicines against the diseases. No plant is useless in nature. However, in the present study, it has been restricted to weeds infesting the crop fields of the district. As the crop fields cover the largest portion of the rural areas, so the roles played by the rural women only are taken into account. Crop field weeds, regarded undesired and neglected as the constant source of annoyance and trouble to the farmers are simply eradicated by plucking and throwing away; but in fact, they are important from the standpoint of medicinal, allelopathic and food values<sup>16</sup>. Some researchers have also reported medicinal, industrial and allelopathic uses of several obnoxious weeds<sup>17-20</sup>.

### Methodology

Nalbari district of Assam extends from 26° 10' N to 26° 47' N latitude and 90°15' E to 91° 10' E longitude. The district is bounded in the North by the Royal province of Bhutan, in the East and South by Kamrup district and in the West by Barpeta district of Assam. The total geographical area of the region is 2,031.76 sq km. The study conducted during

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2004-2005, enumerates the medicinal plant species (weeds) and their utilization against different human diseases. Study was restricted among the rural women only as some of them were thought to be more familiar with the practice of herbal medicine. For the purpose, selected experienced women (medicine men) were questioned regarding the herbal treatment to obtain a first hand knowledge. For authentication and proper identification of the plant names they disclosed, some of the women were taken to the cropland areas in their village vicinity, or plants were collected from natural habitat and were exhibited before them. The data, thus collected, were further verified and crosschecked in different villages and among different groups of women with different practitioners and patients. Voucher specimens were collected, properly identified and deposited in the Herbarium of BH College, Howly, Barpeta, Assam. Species have been arranged alphabetically with their families (in parenthesis), local names, and uses.

## Results and discussion

A total of 32 weed species infesting the different summer and winter crop fields of Nalbari district of Assam have been observed having the potential medicinal values along with a few other plant species frequently used as essential ingredients for preparing medicines from the recorded weed species. Observation indicated that the weed species collected from crop fields are being used to cure different human diseases. Many unique uses of the medicinal plants have been noticed, especially in case of some child and woman diseases (Table 1). The women, particularly the housewives and the elderly women were found to be quite familiar with the herbal treatment. A few women adopt the practice of herbal treatment as a profession for their earning thereby providing an additional support to their family economy. There is need for further intensive studies, which may provide some useful information to phytochemists, pharmacologists, etc. in rapid

Table 1—Medicinal weeds used for different diseases/ailments

Plant name/(family)/local name	Uses
<i>Amaranthus tricolor</i> L. (Amaranthaceae); <i>Bisalya karani</i>	Leaf paste is applied externally immediately after cut to stop bleeding and any infection.
<i>Amaranthus spinosus</i> L. (Amaranthaceae); <i>Kata khutra</i>	Root decoction is taken twice daily till urine trouble (dysuria) and pox trouble (inflammation on skin) are cured.
<i>Amorphophallus bulbifer</i> Blume (Araceae); <i>Ol kachu</i>	Fresh rhizome pieces are taken twice or thrice for 1 month for curing piles.
<i>Bacopa monnieri</i> (L.) Pennell (Scrophulariaceae); <i>Brahmi</i>	Fresh leaf or leaf fried with <i>ghee</i> is taken to enhance memory.
<i>Cannabis sativa</i> L. (Cannabinaceae); <i>Bhang</i>	Leaf powder <i>Bhang</i> mixed with equal amount of leaves of <i>Aegle mermalos</i> , <i>Azadirachta indica</i> and <i>Vitex negundo</i> is taken once daily regularly during physical weakness.
<i>Cardiospermum halicacabum</i> L. (Sapindaceae); <i>Kapal-phuta</i>	Juice of stem and <i>Ficus glomarata</i> bark is taken once daily for 3 days during loose motion in infant due to excess consumption of mother's milk
<i>Cassia sophera</i> L. (Fabaceae)	Root juice is taken twice daily as tonic.
<i>Centella asiatica</i> (L.) Urb. (Apiaceae); <i>Bor manmuni</i>	Plant juice is taken twice daily in stomach disorder, gastritis etc. till cure.
<i>Chromolaena odorata</i> (L.) King & Robin. (Asteraceae); <i>Jarmani ban</i>	Leaf paste or juice is applied locally; immediately after cut to stop bleeding or to prevent infection.
<i>Cleome viscosa</i> L. (Capparidaceae)	Fruits paste is applied externally on forehead during intense headache.
<i>Clerodendrum viscosum</i> Vent (Verbenaceae); <i>Bhete</i>	Tender leaf juice is taken once daily during loose motion, indigestion and stomach pain. Pills prepared from leaf mixed with apical leaf of <i>Ananas comosus</i> , leaf of <i>Artocarpus heterophyllus</i> ; leaf, bark, root and seed of <i>Datura stramonium</i> , flowers and roots of <i>Lagenaria sicerarea</i> crushed and boiled with water is taken once daily till recovery from mental disorder (Mania).
<i>Corchorus aestuans</i> L. (Tiliaceae)	Juice or paste of root mixed with of <i>Sida rhombifolia</i> root is taken once daily to relief from any pre-delivery trouble.
<i>Cynodon dactylon</i> (L.) Pers. (Poaceae); <i>Dubri bun</i>	Plant juice is taken once daily before bed for excess bleeding during menstruation period.
<i>Dentella repens</i> (L.) J.R. & G. Forst (Rubiaceae)	Crushed warm leaf is given in loose motion in infant. Plant juice is taken once daily in blood pressure.
<i>Drymaria diandra</i> Blume (Caryophyllaceae); <i>Lai Jabri</i>	Plant juice is taken once daily in common cold, sinus trouble till cure.

Contd—

Table 1—Medicinal weeds used for different diseases/ailments *Contd—*

Plant name/(family)/local name	Uses
<i>Duchesnea indica</i> (Andr.) Focks (Rosaceae); <i>Ban-kamla</i>	Paste of leaves and tender stem of <i>Ban-kamla</i> and <i>Ageratum conyzoides</i> is applied locally as ointment; once or twice daily on wound, itching etc. till cure.
<i>Eclipta prostrata</i> L. (Asteraceae); <i>Kehraj</i>	Leaf and stem paste is applied on wounds once or twice daily till cure. Plant juice is taken once daily in stomach disorder and dysentery.
<i>Euphorbia hirta</i> L. (Euphorbiaceae)	Whole plant paste is applied on wounds once or twice daily till cure.
<i>Hydrocotyle javanica</i> Thunb. (Apiaceae); <i>Bar manmuni</i>	Plant juice is taken twice daily in stomach disorder and gastritis.
<i>Impatiens glandulifera</i> Royle (Balsaminaceae); <i>Demdeuka</i>	Stem crushed and mixed with lime is applied over the wart surface once or twice daily till wart is removed.
<i>Leucas plukenetii</i> (Roth.) Spreng (Lamiaceae); <i>Durum phool</i>	Leaf juice is taken once daily in pharyngitis and throat trouble.
<i>Mimosa pudica</i> L. (Fabaceae); <i>Adarmalti</i>	Root decoction is applied locally; also kept inside mouth for dental trouble and toothache.
<i>Ocimum basilicum</i> L. (Lamiaceae); <i>Ban tulki</i>	Leaf juice is taken twice daily in cough.
<i>Oxalis corniculata</i> L. (Oxalidaceae); <i>Sengeri</i>	Leaves rolled with banana leaf, boiled and allowed to cool down; leaves are removed and crushed to make paste; paste taken once daily in empty stomach during dysentery.
<i>Phyllanthus fraternus</i> Web. (Euphorbiaceae); <i>Bhui mlokhi</i>	Plant juice is taken twice daily in leucorrhoea.
<i>Pouzolzia zeylanica</i> (L.) Ben. (Urticaceae)	Leaf and stem paste is applied locally once or twice daily for curing itching. Plant leaf and stem rolled with banana leaf, heated and squeezed; juice mixed with goat's milk is taken once daily for dysentery and loose motion of infant.
<i>Sida cordifolia</i> L. (Malvaceae); <i>Boiral</i>	Root juice is taken twice daily for post delivery trouble.
<i>Sida rhombifolia</i> L. (Malvaceae); <i>Borial</i>	Leaf paste is applied on forehead before going to bed for curing migraine.
<i>Solanum torvum</i> Swartz (Solanaceae); <i>Kantakari</i>	Root decoction of plant and <i>Solanum indicum</i> is taken twice daily in rheumatism.
<i>Spilanthes paniculata</i> Wall.ex DC. (Asteraceae); <i>Jhari gash</i>	Decoction of apical portion mixed with <i>Centella asiatica</i> plant and <i>Leucas plukenetii</i> leaves is taken as tonic during jaundice.
<i>Xanthium indicum</i> Koenig. in Roxb. (Asteraceae); <i>Agra</i>	Stem chewed with betel nut by mother; exhalation applied inside the mouth of infant once or twice daily for curing wound in mouth of infant till cure.

assessing of some useful drugs. The medicinal plant species which have been used by the villagers should be properly tested to confirm their safety and efficacy. Due attention should be paid towards the proper exploitation and utilization of the weed species along with their scientific conservation, preservation, propagation and to a certain extent, their domestication.

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