



# पंचायत

PEOPLE'S EFFORT BRINGS SUSTAINABILITY

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*The views expressed in the articles are of the writers and not of the IES. Your views are solicited as a feedback, I.E.S. would be pleased to solve your queries.*

“Modern Ayurveda has many things in common with the way biomedicine is taught and practiced in India. For instance, modern science dominates Ayurvedic and Unani colleges while the prescription of western pharmaceuticals and biomedical disease categories are part and parcel of ‘indigenous practice’.”

— Maarten Bode

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## क्या आप जानते हैं ?

- बलगम युक्त खाँसी में गर्म दूध में हल्दी मिलाकर पीने से बलगम बाहर निकल जाता है और खाँसी में आराम मिलता है।
- कालीमिर्च के दानों को पानी में पीसकर फुँसी पर लगाने से फुँसी बैठ जाती है।
- आँवले और आम की गुठली को बराबर मात्रा में जल के साथ पीसकर बालों में मलने से बाल लम्बे, काले और मुलायम होते हैं।
- कूठ को पीसकर, तेल में मिलाकर सिर पर मालिश करने से बालों के जुएँ शीघ्र नष्ट हो जाते हैं।
- सौंफ और लौंग के साथ बेर की गिरी को पीसकर जल में मिलाकर पिलाने से हिचकी की विकृति तुरंत शांत होती है।
- कालीमिर्च के चूर्ण को घी में मिलाकर शरीर पर मलने से पित्त की विकृति शीघ्र नष्ट होती है।
- सर्दी में कफ या छाती में भारीपन हो तो एक बड़ा चम्मच मूली के बीज को पानी के साथ निगलने से आराम आएगा।
- तुलसी और अदरक का रस एक चम्मच मिला कर पीने से पेट के दर्द में आराम मिलता है।

*Articles are invited on the topic of “Panchayati Raj and Enviroment” for the next edition of the newsletter “Panchayat”*

## सम्पादकीय

देश की लगातार बढ़ती जनसंख्या, बेरोजगारी, निर्धनता, प्रदूषण और अपर्याप्त चिकित्सा सुविधाएँ। इन सभी समस्याओं ने देश के सामने आज ऐसी चुनौतियाँ पैदा कर दी हैं जिनका समाधान देश और उसमें रहने वाले लोगों के लिए अत्यन्त आवश्यक हो गया है।

भारत की लगातार बढ़ती जनसंख्या और घटते संसाधनों के कारण गाँववासियों के जीवन निर्वाह पर प्रश्न चिन्ह लग गया है, जिसका परिणाम शहरों की ओर बढ़ता पलायन है जो दिनो दिन प्रगति पर है। ऐसी स्थिति में गाँवों में सुधार लाने और गाँववासियों के जीवन स्तर को उठाने के लिए औषधिय वनस्पतियों की महत्ता पर ध्यान देने की आवश्यकता है। इन वनस्पतियों के संरक्षण, पैदावार एवं विपणन से अधिक लाभ के अलावा स्वास्थ्य से जुड़ी समस्याओं का भी निदान संभव है। आयुर्वेद एवं युनानी चिकित्सा प्रणाली में प्रयुक्त की जाने वाली औषधियों पर अनुसंधान और विकास की गति लगातार प्रगति पर है, जिसके परिणामस्वरूप देशीय व अन्तराष्ट्रीय स्तर पर इन औषधियों की मांग का स्तर भी जोरों पर है।

आदि काल से ही इन औषधियों का मूल स्रोत जंगल हुआ करते थे लेकिन बढ़ती जनसंख्या के चलते अब जंगल समाप्त हो रहे हैं और इसका सबसे अधिक प्रभाव वनऔषधियों की प्राप्ति पर हुआ है शहरों में भी औषधिय वनस्पतियों के बारे में जागृति पैदा करें जिससे शहरी जन इनको आस-पास लगाकर इनसे स्वस्थ लाभ उठा सके।

पंचायत का यह अंक "औषधीय वनस्पतियों" उनके इस्तेमाल तथा उपयोगिता पर केन्द्रित है, आशा है यह अंक पाठकों में औषधीय वनस्पतियों के प्रति अधिक चेतना जागृत करने में सफल होगा। पंचायत को बनाने, संवारने और आवश्यकताओं के अनुरूप बनाने में आपका महत्वपूर्ण योगदान रहा है, यह अपने उद्देश्यों को प्राप्त करे और अधिक प्रभावी व उपयोगी हो सके इसके लिए आपके सक्रिय योगदान की आशा रहेगी।

पत्रिका के इस अंक के बारे में अपने अमूल्य विचारों से हमें अवश्य अवगत कराएँ। हमारा प्रयास रहेगा कि हमेशा की तरह पत्रिका का प्रत्येक अंक आपको नियमित रूप से प्राप्त होता रहे।

डा. देश बन्धु

## नीम : एक अद्भुत औषधीय वृक्ष

पन्नजय तिवारी, प्राजेक्ट असोसीयट

भारत प्राकृतिक संपदा की दृष्टि से अत्यन्त समृद्धशील है। आज से हजारों वर्ष पूर्व आयुर्वेद के ऋषियों ने इन प्राकृतिक वनस्पतियों के गुणों-अवगुणों का विश्लेषण कर लिया था। वायु को शुद्ध रखने में वृक्षों का योगदान अत्यधिक है जो जीवन का आधार है। आज भी भारत के गाँवों और जंगलों में रहने वाले लोग जड़ी-बूटी के द्वारा अपना सफल इलाज करते हैं। स्वयं गाँधीजी भी प्राकृतिक चिकित्सा की बात पर बल दिया करते थे।

हजारों वर्ष पूर्व महर्षि चरक ने कहा था : “नानौषधि भूतम् जगति किञ्चित् द्रव्यम् उपलभ्यते” अर्थात् संसार में ऐसा कोई द्रव्य नहीं जो औषधि न हो। आज चिकित्सा क्षेत्र में बदलाव आ रहा है। समूचे विश्व के लोग आधुनिक चिकित्सा पद्धतियों के दुष्परिणामों से भलिभाँति अवगत हो चुके हैं और अब आयुर्वेदिक और यूनानी चिकित्सा पद्धति की ओर आकर्षित हो रहे हैं। गत वर्षों में नीम, हल्दी इत्यादि औषधियों के पेटेन्ट विदेशों में लिए जा चुके हैं। प्रकृति ने नीम के रूप में मानव जाति को एक अद्भुत वृक्ष उपहार स्वरूप प्रदान किया है।

बहुउपयोगी वृक्ष जातियों में नीम का स्थान सर्वोपरि है, नीम को इसीलिए आधुनिक युग में कल्पतरु की संज्ञा दी जा रही है। सभी प्रकार की जलवायु एवं प्राकृतिक परिस्थितियों से तालमेल स्थापित कर लेने की क्षमता के कारण यह वृक्ष अपने उद्गम स्थल दक्षिण व दक्षिण पूर्व एशिया के अतिरिक्त विश्व के अन्य भू-भागों में भी तेजी से फैल रहा है। यह वृक्ष भारतीय उपमहाद्वीप के शुष्क व अर्द्धशुष्क भागों में मिलता है। हल्की मिट्टी वाले इलाके इसको उगाने के लिए उपयुक्त स्थान है, हालांकि नीम का पेड़ गंगा के मैदान में भी भलिभाँति उगता है। यह तेजी से बढ़ता है और कुछ वर्षों में ही निबौरियां लग आती हैं।

नीम के उपयोगी रसायनिक यौगिकों का पता लगाने का श्रेय डा. एस. प्रधान को जाता है। वे उन दिनों पूसा इन्सटीट्यूट के कीट विज्ञान विभाग में काम कर रहे थे। उनका शोध प्रबंधन 1962 में प्रकाशित डा. अनन्त कृष्णन और डा. रामन द्वारा संपादित किताब में इन खोजों का विस्तृत विवरण दिया गया है। यह एक विश्वप्रसिद्ध वृक्ष है और इसका श्रेय इसके औषधीय गुणों को जाता है। इस वृक्ष से अनेक हर्बल प्रोडक्ट्स भी तैयार किए जाते हैं। नीम में मार्च से मई के मध्य में प्रजनन होता है तथा मई से मध्य जुलाई के बीच इसके फल पक जाते हैं। इस वृक्ष को बीज के द्वारा लगाया जाता है।

### उपयोग

नीम अनेक गुणों से मिश्रित वृक्ष है। इसके पत्ते, फल, फूल, छाल, रस सभी औषधिक गुणों से भरपूर हैं और निम्न प्रकार से उपयोग में आते हैं :

- लकड़ी को ईंधन के रूप में
- हरी पतली शाखा को दातून के रूप में
- पत्तियों का धुँआ मच्छरों को भगाने के लिए
- फसलों की कीटों से रक्षा के लिए
- गोदाम में

### नीम के बीजों में सबसे अधिक कीटनाशक गुण होता है

- इसकी गुठली को सुखाकर पीसा जाता है, उसके उपरान्त कपड़े में बाँधकर रात भर पानी में भिगोकर रख दिया जाता है, इसके उपरान्त



जो घोल प्राप्त होता है उसे कीटनाशक के रूप में प्रयोग में लाया जाता है।

- नीम के बीज को अल्कोहल में डुबोकर रखने के पश्चात् भी कीटनाशक बनाया जाता है।
- नीम के बीजों में करीब 40% तेल होता है और इसका प्रयोग कीटनाशक, दवाईयाँ, साबुन आदि बनाने में होता है।
- नीम के बीजों में उपस्थित निम्बिन, निम्बीडीन व एजाडिरेक्टिन नामक रसायनों की गंध के कारण ही यह एक प्रभावशाली पर्यावरण मित्र व सुरक्षित कीटनाशक सिद्ध हुआ है।

नीम का उपयोग कई घरेलू एवं अन्य औषधियों में होता है। नीम के विभिन्न औषधीय उपयोग निम्न प्रकार से हैं :

- **पथरी में** : करीब 150 gm. पत्तियों को अच्छी तरह पीस लें और फिर उसे 2 लीटर पानी में उबालें, इसे पीने से पथरी का निदान संभव है।

- **बवासीर में** : मूँग की दाल और नीम की पत्तियों को पीसकर महीन कर लें और इसकी लुब्दी बना लें, इन्हें तलकर खायें। नियमित आहार में छाछ व चावल लेने से भी आराम मिलता है।
- **पायरिया में** : नीम की पत्तियों को पानी में उबाल लें और टंडा होने के पश्चात् खाएँ, प्राचीन काल से ही नीम की पतली टहनी को दातून के रूप में प्रयोग में लाया जाता है, आजकल नीम से निर्मित कई प्रकार के मंजन भी बाजार में उपलब्ध हैं।
- **कब्ज में** : नीम के फल को गर्म पानी में डालकर मसल ले, छानकर इसका सेवन करें, सोते समय इसका सेवन करें, पेट के कीड़े मारने के लिए नीम की पत्तियों को शहद अथवा कालीमिर्छ के साथ लेने पर असर होता है।
- **ज्वर में** : नीम का चूर्ण सुबह-शाम सेवन करने से आराम मिलता है। चूर्ण नीम की अर्न्तछाल से बनता है।
- **प्लीहा वृद्धि में** : कई दिनों तक ज्वर रहने या फिर भारी भोजन करने से प्लीहा व यकृत के बढ़ जाने पर नीम का चूर्ण पानी के साथ सेवन करने पर लाभ मिलता है।
- **बेवची में** : यह त्वचा रोग है जो एग्जीमा से मिलता जुलता है, यह रोग घुटने व टखनों के बीच पैर पर होता है। इसमें जलन व खुजली होती है। नीम के पत्तों का रस अथवा पत्तों को जलाकर राख छिड़कने से राहत मिलती है।
- **केश रोगों में** : नीम की पत्तियों को उबालकर टंडा कर लें। इसे बालों पर लगाने पर बालों का झड़ना रुकता है तथा सिर में होने वाली फुंसियों में राहत मिलती है। रात को सोने से पहले बालों की जड़ों में नीम का तेल लगाकर उँगलियों से मालिश करने व सुबह नीम के साबून से बाल धाने पर जुएँ व लीक नष्ट होजाते हैं।

- **बिच्छू काटने में** : नीम की पत्तियों को पीसकर उसका लेप बनाकर लगाने से राहत मिलती है।

#### ग्रामीण समुदाय के लिए इसकी महत्त्वता

नीम अभी तक ग्रामीण समुदाय का अंग नहीं बना है लेकिन बीजों की माँग बढ़ने पर यह गरीब किसानों के लिए खजाना साबित हो सकता है। जब देश के विभिन्न राज्यों में सूखे की स्थिति उत्पन्न होती है तो तमाम फसलें और पेड़-पौधे प्यासे मर जाते हैं लेकिन नीम फिर भी हरा रहता है। यद्यपि नीम की निबौरियों की बीज के लिए माँग बढ़ेगी तो गरीब किसान और पर्यावरण इससे लाभान्वित होंगे। नीम के अतिरिक्त शायद ही कोई ऐसी फसल हो जो कम साधनों और देखभाल के बावजूद मुनाफे का सौदा साबित होती है।

#### पंचायत का महत्व

नीम का उपयोग बढ़ने से कीमतें बढ़ेगी। हमारे देश में नीम खूब उगता है। क्योंकि पंचायत भारतीय गाँवों का एक अभिन्न अंग है इसलिए उनका कर्तव्य है कि वे इस क्षेत्र में अपना योगदान दें। बरसात के दिनों में वन महोत्सव के दौरान अगर नीम लगाये जाएँ तो ग्राम पंचायतें इसकी निबौरियों को बेचकर अत्यधिक लाभ कमा सकती हैं। दूसरा उनके द्वारा नीम के औषधीय गुणों के बारे में चर्चा होनी चाहिए और ग्रामीणों को इसकी बहुउपयोगिता से अवगत कराना चाहिए। इसके लिए पंचायतें अनेक माध्यमों जैसे टी.वी., रेडियो, पोस्टर, शिक्षा आदि के द्वारा जन प्रचार-प्रसार कर सकती हैं। तीसरा इसका संरक्षण अत्यधिक जरूरी है और इसे अवैध रूप से कटने से बचाना होगा।

आज के युग में जहाँ सम्पूर्ण वातावरण प्रदूषित हो चुका है, बीमारियाँ अत्यधिक हैं और आधुनिक चिकित्सा प्रणाली के परिणामों से डरकर लोग



## NEEM : INDIA'S MIRACULOUS HEALING PLANT

A comprehensive look at the many therapeutic and ecological uses of Neem :

- Used in India for over 4,000 years, neem is one of the most popular therapeutic plants in the Indian Pharmacopoeia.
- Effective in the treatment of fever, malaria, skin diseases, dental problems, diabetes, arthritis and jaundice.
- A natural pesticide hailed by many for its diverse ecological benefits.

In India, where it has been used for more than 4,000 years, the neem tree has such a variety of medicinal applications that it is sometimes referred to as Village Pharmacy. Now modern research is proving what has been long known by Ayurvedic Medicines practioners : neem is one of the most effective plant medicines in the world. An extremely powerful blood purifying agent and detoxicant, neem is also effective in the treatment of fever, malaria, skin diseases, dental problems, diabetes, tumours, arthritis and jaundice. It has gained particular attention from scientists seeking a cure for AIDS.

## सफेद मूसली की खेती

जगेन्द्र पाल राणा, सचिव ज्ञानलोक समिति (रजि०)

सफेद मूसली लिलिएसी कुल का पौधा है। यह हमारे देश में जंगलों में प्राकृतिक रूप से उगता है। इसे संस्कृत में मुशली, तालमूली, हेमपुष्पा, भूताली, दीघे कान्दिका, तालपत्री, महावृष्ठा, तालमुलिका, महावृष्ठा, तालमुलिका, अशोध्री आदि नामों से जानते हैं। गुजराती में धौली मूसली, उत्तर प्रदेश में खेरुआ, अरब फारसी में शकाकुले तथा अंग्रेजी में Chlorophytum borivillianum कहते हैं। इसकी जड़ों का प्रयोग विभिन्न औषधियों में होता है। आयुर्वेद के मतानुसार यह गर्म एवं रूखी है। यह पित्त की गर्मी को शान्त करती है। शरीर को हृष्ट पुष्ट, बलवान एवं मोटा बनाती है। धातु को बढ़ाती है एवं उत्तेजित करती है।

हमारे देश में इसकी करीब 15 प्रजातियाँ पायी जाती हैं। जिसमें क्लोरोफाईटम बोरीविलिएनम, क्लोरो फाईटम ट्यूबरोजम, क्लोरोफाईटम अरूडीनेशियम, क्लोरोफाईटम एटेनूएटम प्रमुख हैं। परन्तु उत्तर प्रदेश के जंगलों में अधिकांश क्लोरोफाईटम ट्यूबरोजम पायी जाती है। सफेद मूसली एक महत्वपूर्ण वनोषधी है। जिसका विभिन्न प्रकार की औषधियों में प्रयोग किया जाता है। जिस कारण यह एक बहुमूल्य जड़ी बूटी बन गयी है तथा अन्तर्राष्ट्रीय स्तर पर इसकी अत्यधिक कमी हो गयी है। इसकी खेती के लिए उ०प्र०, मध्य प्रदेश, बिहार, राजस्थान, पंजाब, हरियाणा, महाराष्ट्र आदि प्रदेशों की जलवायु बहुत ही उपयुक्त है।

### भूमि एवं जलवायु

सफेद मूसली के लिये बलुई दोमट जिसमें प्रचुर मात्रा में जीवांश तथा पानी निकासी का अच्छा प्रबन्ध होना चाहिये। इसकी फसल को गर्म नमीयुक्त जलवायु की आवश्यकता होती है और इसकी उत्तम बढ़वार के लिए भूमि की नमी के साथ हवा में नमी 60-70 प्रतिशत आवश्यक है। भूमि अधिक नरम नहीं होनी चाहिये इससे कन्दों का आकार पतला रह सकता है। जिस भूमि का पी उच मान 7 से 7.5 के बीच हो वह इसकी फसल के लिये उत्तम है। क्षारीय एवं अम्लीय भूमि इसकी खेती के लिये बाधक है।

### खेत की तैयारी

खेत की गहरी जुताई कर उसे समतल कर देना चाहिये। जिससे मिट्टी भूरभूरी हो जाये। सफेद मूसली की फसल के लिये दो प्रकार से बीजाई की जाती है।

**बेडस बनाकर :** अच्छी फसल के लिये स्ट्राबरी की तरह बेडस बनाना आवश्यक है। इसके साथ-साथ पानी को निकासी के लिये उचित प्रबन्ध होना चाहिये।

**मेढ़ बनाकर :** उत्तर प्रदेश में बेडस की अपेक्षा आलू की तरह मेढ़ पर सफेद मूसली बोकर अच्छी पैदावार ली जा चुकी है।

### प्रयुक्त होने वाला बीज

इसमें पूर्ण फसल के निकाले गये कन्दों का ही प्रयोग किया जाता है। प्रत्येक कन्द के ऊपर डिस्क या क्राउन का कुछ भाग रहना आवश्यक है तथा कहीं से भी कन्द क्षतिग्रस्त नहीं होना चाहिये। कन्दों को बीज के लिये प्रयुक्त किया जाता है। एक कन्द का वजन अच्छी फसल के लिये प्रायः 2 से 5 ग्राम होना चाहिये। अच्छी फसल के लिये अच्छी गुणवत्ता के प्रमाणित कन्द किसी भी अच्छे फार्म या संस्था से लेना आवश्यक है। वैसे तो सफेद मूसली को बीजों द्वारा भी उगाया जा सकता है। ये काले रंग के होते हैं। लेकिन बीजों से पौधे तैयार करने में करीब एक वर्ष या इससे अधिक समय लग जाता है। अतः अच्छी फसल के लिये इसके कन्द/फिंगर से ही फसल

तैयार की जाती है।

### समय

सफेद मूसली के लिये सबसे अच्छा समय 15 मई से लेकर 15 जून है। लेकिन कभी-कभी इसके मूल कन्द/फिंगर्स अप्रैल के आखिरी सप्ताह में ही उगने शुरू हो जाते हैं। लेकिन इसकी अच्छी फसल लेने के लिये इसको 15 जून से पहले खेतों में लगा देना चाहिये।

### बुआई की विधि

खेत में बेडस पर या मेढ़ पर लगाने के लिये पेड़ से पेड़ की दूरी 15-30 सेंमी० तथा लाईन से लाईन की दूरी 30 सेंमी० होनी चाहिये। यह व्यवसायिक खेती के लिए उत्तम है तथा इसके लिये प्रति एकड़ करीब 150 से 180 कि०ग्रा० फिंगर्स की आवश्यकता होती है। इसको मक्का की फसल के साथ भी अच्छी प्रकार से उगाया जा सकता है तथा सर्दियों में मक्का के बाद सरसों की फसल भी ली जा सकती है।

### बीज उपचार

सफेद मूसली के मूल व्रन्तों/कन्दों/फिंगर्स का शोधन किसी भी फफूंदी नाशक के द्वारा किया जाता है। जिससे उसमें उगने के समय किसी प्रकार का रोग न लगे। इसके लिये अगर ट्राईकोड्रमा का प्रयोग भी करें तो अति उत्तम रहता है। इसके अतिरिक्त गौमूत्र का प्रयोग भी कर सकते हैं।

### खाद एवं सिंचाई

इसके लिये रासायनिक खाद का प्रयोग कम किया जाता है। परन्तु 15-20 टन गोबर की खाद नीम/अरण्डी की खली 2-3 कुन्तल/वर्मी कम्पोस्ट 2-3 कुन्तल प्रति एकड़ डालना आवश्यक है। इसी प्रकार बुआई के 45 दिन बाद भी वर्मीकम्पोस्ट आदि का प्रयोग कर सकते हैं।

बोने के बाद पानी की एकदम आवश्यकता पड़ती है। जून, जुलाई, अगस्त में पानी की इतनी आवश्यकता नहीं पड़ती। कम वर्षा होने पर थोड़ी सिंचाई आवश्यक है। जिससे नमी बनी रहे। वर्षा के उपरान्त हल्की सिंचाई नमी बनाने के लिये करते रहना चाहिये। नवम्बर के बाद पौधों के सुखने पर भी हल्की सिंचाई करते रहना चाहिये। विशेषतया यह ध्यान रखने योग्य बात है कि सफेद मूसली के खेत में पानी नहीं रुकना चाहिये।

### बढ़त एवं उत्पादन

अक्टूबर, नवम्बर के पश्चात पौधे पूर्ण रूप से विकसित होकर सूखने लगते हैं। लेकिन कन्द भूमि में रह जाते हैं। मूसली का उत्पादन में सबसे अधिक उसके बीज का महत्व होता है। इसलिये बीज साफ सुथरा एवं फफूंदी लगा नहीं होना चाहिये। औसतन एक पौधे में 10 से 15 तक कन्द/फिंगर्स/गूलबन्द होते हैं। इसका उत्पादन 5 से 10 गुना तक हो सकता है।

### कन्दों/फिंगर्स को उखाड़ना

पतियों के सूख जाने के पश्चात भी खेत में हल्की हल्की सिंचाई करते रहें। कच्चे कन्द सफेद होते हैं तथा पूर्णतया पकने पर इनका रंग गहरा भूरा हो जाता है। अतः कन्दों को फरवरी या मार्च में सावधानी के साथ निकाला जाता है। जिससे वे टूट न जाये।

### कन्दों की सफाई व प्रसंस्करण

कन्दों को खोदने के पश्चात पानी से अच्छी प्रकार धोकर साफ कर



## MEDICAL PLANTS AND WOMEN

by Aarti Kaushik , Project Co-ordinator, IES

Medicinal plants play a vital role in the maintenance of human health throughout the world. They are of critical importance in poor community where even relatively cheap western medicines remain prohibitively expensive. Medicinal plants also play an important crucial role as well as an important economical role. Knowledge of their use is widespread and their efficacy is tested, based on a long history of use.

The availability of medicinal plants particularly affects women. Women folk of the area provide the most valuable source of indigenous knowledge of medicinal plants. Women work in the fields along with their men. Women are frequently responsible for the collection of medicinal plants and have to walk increasingly greater distance to gather these as availability diminishes. Some of the collected are kept in home and used for their own needs, while rest of the medicinal plant collected are sold in the local market to earn money.

*Plains Indians used various wild berries and herbal plants in ceremonial rites that celebrated the gift of life from Mother Earth and the continuation of its people. The women gathered herbal plants and stored them for seasoning or flavoring and for medicinal purposes in healing. The knowledge of herbal medicine was not confined to the women, but generally women seemed to be more familiar with various herbal potions and brews. In some tribes, a women - usually the wife of a medicine man - learned secrets in healing natural illness with herbs by assisting the medicine man. In other tribal communities women learned the art of doctoring with herbs from their mothers and grandmothers. Women who had the gift for curing spent considerable time wandering around the areas surrounding their encampment, gathering herbs and other natural ingredients to prepare their medicines. In most Plain tribes, a medicine woman was not allowed to practice by herself until she reached middle age and older. The power to heal usually remained with a woman until her death.*

*Like her male counterpart, a medicine woman was considered by early Plains Indians to have a special connection to the spirit world and that link is what empowered her to heal. Emotional afflictions required supernatural remedies to recapture the soul. Generally all healers called upon the aid of an ally from the spirit world to guide them in curing illness. Plains Indians believed that both physical and emotional illness reflect an imbalance between the natural world and the spirit world.*

It indicates that there is a relationship between women's specialized knowledge and skills in relation to plants, their contribution to subsistence and their social position and status within their communities.

Women also have a real need for medicinal plants due to the role they play as primary health carers in the family

and for importance of these plants in treating gynaecological diseases. This is in spite of the fact that the first person to whom any child report their illness and from whom they seek a cure is usually one of the women in the family who have an extensive knowledge of medicinal plants and other remedies (Finerman 1989). Women are the 'popular' or 'lay' healers who form the backbone of traditional rural health care systems, especially in areas rich in biodiversity. It has been observed that among popular healers, women are the primary actors in many societies' local health care systems. Especially mother and grandmothers is active agent in self-directed health care provisions and therapeutic knowledge generation within households and communities. It also seems clear that most cases of illness are handled with fresh herbal precautions made from locally available plants.

*In agriculture and in the health care, women have been the biodiversity experts. In partnership with plants, third world women meet the needs for food and medicine in their societies. Women farmers are the seed keepers and seed custodians in most peasant societies - they select, store, sow and conserve seed. Women healers are the knowledge providers of plant-based medicine. According to an ethnobotanical survey, there are 7500 species used as medicinal plants by the indigenous medical traditions of India. These traditions are kept alive by 360 740 Ayurvedic practitioners, 29 701 Unani experts and 11 644 specialists of Siddha, in addition to millions of housewives, birth attendants and herbal healers using village based health traditions. Seventy percent of health care needs in India are still based on traditional systems using medicinal plants. Eighty percent of seeds used by farmers still come from farmers' seed supply. India is thus still a predominantly biodiversity based economy and women's knowledge is very central to this economy.*

It shows that indigenous women have a preeminent role in the management of plant biodiversity. They make effort to preserve this biodiversity in home-gardens and by collecting, managing and exchanging 'folk' plant varieties, those that they have developed over millennia or have brought informally for outside their regions and naturalized in their environment.

The Western Ghats is not only rich in biodiversity but also a home for many tribal communities. Because of geographical isolation and many other reasons, even the primary needs of these tribal communities are not fulfilled. They pass through many hardships. Bhima catchments area, in the backwaters of the Chaskaman dam in Khed Taluka of Pune district of Maharashtra state is home for Mahadeo koli Community. Their main occupation is farming. They practice shifting cultivation and other income generation sources include rearing,

collection of honey and medicinal plants such as Terminalia chebula, T. bellerica, Acacia concinna etc. and wild fruits. Income generation from forest produce is not significant. Due to destructive harvesting of forest wealth natural resource base has shrunk considerably in the last two decades. This has directly affected their way of life.

Women in particular are the first victims of this shrinking resource base, since women are involved in harvesting most of the forest produce and collecting fuel wood. Added to this, they are not accessible to recent advances in science, which can help them generate more income and in turn improve of quality of their life.

*Cultivation of medicinal plants especially high value medicinal plants is creating new dimension in the field of agriculture. For women having marginal land holding, it will be*

*beneficial if they cultivate high value medicinal plants and process them to some extent with the help of experts' supervision. Therefore some of their land may be utilized for producing high value medicinal plants. Initially, while talking about these schemes, a participatory Rural Appraisal exercise was carried out for identifying the acceptance of idea of this project. Some of the women showed willingness to plant medicinal plants.*

It reveals the gendered natures of knowledge and the importance of women's intergenerational knowledge transmission for the maintenance of biological and cultural diversity.

The obvious conclusion seems to be that women, in their maternal roles or as healers (herbalists and midwives, for example), must know a great deal about medicinal plants.



## TULSI

Compiled by **Aarti Kaushik**, Project Co-ordinator, IES

**T**he 'tulsi' plant or Indian basil (*Ocimum Sanctum*) is an important symbol in the Hindu religious tradition. The name 'tulsi' connotes "the incomparable one". Tulsi is a venerated plant and Hindus worship it in the morning and evening. Tulsi grows wild in the tropics and warm regions. Dark or Shyama tulsi and light or Rama tulsi are the two main varieties of basil, the former possessing greater medicinal value. Of the many varieties, the Krishna or Shyama tulsi is commonly used for worship.

Apart from its religious significance it is of great medicinal significance and is a prime herb in Ayurvedic treatment. Marked by its strong aroma and a strangle taste, tulsi is a kind of "the elixir of life" as it promotes longevity. The plant's extracts can be used to prevent and cure many illnesses and common ailments like common cold, headaches, stomach disorders, inflammation, heart disease, various forms of poisoning and malaria. Essential oil extracted from karpooora tulsi is mostly used for medicinal purposes though of late it is used in the manufacture of herbal toiletry. According to Jeevan Kulkarni, author of Historical Truths & Untruths Exposed, when Hindu women worship tulsi, they infact pray for "less and less carbonic acid and more and more oxygen – a perfect object lesson in sanitation, art and religion". The tulsi plant is even known to purify or depollute the atmosphere and also works as a repellent to mosquitoes, flies and other harmful insects. Tulsi used to be a universal remedy in cases of malarial fever.

Prof Shrinivas Tilak, who teaches Religion at Concordia University, Montreal has made this Birdwood, Professor of Anatomy, Grant Medical College, Bombay said, "When the Victoria Gardens were established in Bombay, the men employed on those works were pestered by mosquitoes. At the recommendations of the Hindu managers, the whole boundary of the gardens was planted with holy basil, on which the plague of mosquitos was at once abated and fever altogether disappeared from among the resident gardens".

Some Medicinal Uses of Tulsi are as follows :

- The juice of tulsi leaves can be used to bring down fever. Extract of tulsi leaves in fresh water should be given every 2 to 3 hours. In between one can keep giving sips of cold water. For children , it is every effective in bringing down the temperature.
- Tulsi is an important constituent of many Ayurvedic cough syrups and expectorants. It helps to mobilise mucus in bronchitis and asthma. Chewing tulsi leaves relieves cold and flu.
- For earache a few drops of tulsi extract, if instilled, relieves the symptoms promptly.
- The juice of fresh leaves, flower tops and slender roots is a very good antidote for snake and scorpion bite.
- Its oil is rich in vitamin C, carotene, calcium and phosphorus. Besides, it has antibacterial, antifungal and antiviral properties.





## ***Cordyceps sinensis* : A MIRACULOUS MEDICINAL MUSHROOM**

by **Pananjay Tiwari**, *Project Associate, IES*

**T**o improve biology functions and make people fit human beings are in constant search of new substances. There is a vast array of products out in market that serves this purpose and range includes - Dietary supplements, Vitamins, Functional foods, Phytochemicals etc. All of these are designed to supplement human diet by intake of bioactive compounds, that can make them fit and healthy but it should not be used as a regular diet.

About 15,000 years ago in the Tibetan mountain pastures Chinese herdsmen while grazing their cattle stumbled upon an energetic, natural miracle plant. They saw that their cattle and livestock became energetic after consuming a grass like mushroom and even older animals became vigorous. This miracle plant is known as *Cordyceps sinensis* and its common name is Yar tsa Gumba or the caterpillar mushroom in the local Tibetan language and is a famous Chinese Traditional medicine. In India this fungus was collected a decade back by some local people called Khambas (a Tibetan race) in the high altitude areas of Kumaun hills of Central Himalaya. Presently various places like Chiplakot, Brahmkot, Ultapara, Ghwardharp, Najari and alpine meadows of Chipla Kedar, Dharma Valley and Ralam Dhura in Dharchula-Munsiyari region of district Pithoragarh, Uttaranchal are known for its occurrence. *Cordyceps sinensis* is a type of an entomophilic fungus that grows parasitically upon the larvae of Chongcao bat moth and forms a fungus / larva association. Chinese name of this medicine roughly means “winter insect, summer grass”. The biological relationship between fungus and caterpillar is still not understood and yet to be established.

It is found in the alpine and subalpine zones between 3,600 – 4,200 metres above mean sea level. It is found in Nepal Himalaya, Tibet, Bhutan, Sikkim, Sichuan, Qinghai, Xizang and Yunnan provinces of China. In India, it is mainly found in the higher altitudes of Arunachal Pradesh, in the alpine meadows of Chipla Kedar, Darma, Vyas, Ralamdhura in Kumaon Himalaya where it is referred to as ‘Keeraghaas’. Presently, it is found in Chiplakot, Ultapara, Brahmkot, Najari and Nangnidhura in Dharchula – Munsiyari region of district Pithoragarh and in alpine meadows of Niti–Mana valleys in Chamoli district.

### **Medicinal Uses**

- It is effective against all sorts of bacteria that have developed resistance to other antibiotics.
- The most notable is its effectiveness against Tuberculosis.

- Effective against all sorts of lung and respiratory infections as well as in the treatment of leprosy and Leukemia.
- It is a hormone stimulator thus it acts as an anti ageing medicine.
- Also inhibits formation of an active enzyme called monoamine oxidase, responsible for ageing in man.
- Frequent use of *Cordyceps sinensis* helps in the prevention of senile disorder.

### **Advantages to Rural Community**

The awareness among the local community toward it has risen and villagers now earn Rs. 40,000 / Kg in comparison to Rs. 15,000 – 20,000 earlier and it resulted in bringing this medicinal plant to the verge of extinction.

### **Present Status of Yar tsa Gumba**

Caterpillar mushroom is now on the brink of extinction and it is due to its overexploitation for its medicinal value and a high cost. On an average 50-60 samples are collected daily by an effective person. During the harvest month (July) there is a mad race among the locals, Nepali laborers, nomadic shepherds from H.P. and Tibetan traders to collect this miracle mushroom in greater quantity. Sometimes, the pressure was such that the locals do not wait for July and exploit the whole crop in June itself. It had a negative effect on the species, as the fruiting body needs more time to mature for its spore dispersal.

### **Conservation Effort by Uttaranchal Government**

For ensuring the conservation of species in the wild, Uttaranchal Government on January 18, 2002 issued guidance to district magistrate, Pithoragah, that Yar tsa Gumba be harvested and collected under the supervision of the local governing bodies. But it failed to serve the purpose and all these steps, however, proved futile.

### **Role of Panchayat in the Conservation of Yar tsa Gumba**

- Panchayats have a key role to play in the conservation of this species. In an effort to earn big amount of money people overexploit it. The local people should be made aware about the usefulness of this mushroom in maintaining the balance of the ecosystem.
- Panchayats should encourage villagers to cultivate other medicinal plants and spread Traditional Ecological Knowledge (TEK), involved in such cultivation. It will not only bring about a change in the economic conditions of the Villagers, but will also reduce pressure on Yar tsa Gumba.



## DEVELOPMENT OF SUSTAINABLE STRATEGIES FOR PROTECTION AND CONSERVATION OF MEDICINAL PLANTS — A CASE STUDY

by **Chinmaya Tripathy**, *Project Associate, IES*

The Indian Environmental Society is implementing a project on “Conservation of Medicinal Plants in Tribal Belt of Southern Rajasthan for the Rural Development” with the aim to develop the strategies for the protection and proper utilization of Medicinal Plants in the tribal belt of Southern Rajasthan, which will ultimately lead to rural development and participatory environmental conservation. The project area lies in the South Western region of Rajasthan, the second largest state in India. Some of the districts included in the project are Udaipur, Dungarpur, Banswara, Chittorgarh and Sirohi. The region has a large number of Medicinal and Aromatic Plants (MAPs), which have been conserved for ages by about 25 percent population of tribal people in the area. The area is mostly inhabited by tribals comprising 'meenans', 'garsiyas', and 'kathodis'. However, during the last few years the exploitation of these resources has increased incidentally, consequently causing extinction of many important species of medicinal plants. In this regard, IES initiated the present study with the goal of understanding the perception, knowledge of local people regarding MAPs and their methodology of harvesting and conservation and to promote future strategies for their conservation and sustainable use. IES employs indigenous techniques to sustain the local medicinal and aromatic gene pool with the goal to enhance the dissemination of information to tribals and local people living in the tribal belt of Southern Rajasthan regarding the conservation, protection and marketing of Medicinal Plants.

Rajasthan has a very rich history of conserving and protecting biological wealth. History tells that it was 400 years back when nearly 360 persons sacrificed their life for protecting trees in Khegarli village in Western Rajasthan. Rajasthan second largest state in India covering 3,42,239 Sq. of state, is dominated by Aravali mountain system stretching in southeast to northwest from Udaipur, Dungarpur, Banswara, Chittorgarh and Sirohi districts which comprise the southwestern Rajasthan, lying east of Aravali range with a hilly terrain. The region has 43,590 Sq. Km area and 70.57 lakhs population. This region is dominated by schedule tribes. 25% of the total population are schedule tribes. The region has 8,400 Sq. Km. area under forest (20% of the total area). The region has typical dry deciduous type of forest vegetation with a fairly good ground vegetation cover in

monsoon and post monsoon seasons. Forests of this region are rich in Medicinal Plants. These districts of Southern Rajasthan are included under Tribal Sub Plan Area (TSPA) by Govt. of India. The tribal economy of this region is mainly biomass based, as they derive their maximum benefits from forest and agriculture produce. These tribals have intensive knowledge of medicinal plants. They generally use traditional system of medicines. They derive large number of medicines from the nearby wilderness/natural ecosystem and use these medicines both as preventive and curative purpose. Some of the well known medicinal plants growing in this area are: *Plumbago zeylanica*, *Cassia occidentalis*, *Solanum nigrum*, *Commiphora mukal*, *Adina cordifolia*, *Sapindus reoliatus*, *Eclipta alba*, *Tinospora cordifolia*, *Vitex negundo*, *Terminalia arjuna*, *Phyllanthus emblica* etc. Through this project an attempt has been made by Indian Environmental Society (IES) for sustainable utilization and conservation of Medicinal Plants growing in the tribal belt of Rajasthan and also for the financial betterment of the tribals living there.

The Society has carried out a study and identified 58 local species of medicinal and aromatic importance. Further information has been collected about their medicinal uses, distribution of the plants in the local



**What is a Medicinal Plant?**

The traditional definition of medicinal plants is given in Ashtaanga Hrdaya (600 AD), Sutra sthana Chapter 9 verse 10 as

...Jagtyevam anoushadham na kinchit vidyate dravyam, vashaannarthayogayoh

(There is nothing in this universe, which is non-medicinal, which cannot be made use of for many purposes and by many modes).

This definition rightly suggests that in principle, all plants have a potential medicinal value although 'in practice' a plant is referred to as medicinal when it is so used by sonic system of medicine.

Human beings have been identifying medicinal plants for basic preventive and curative health care since time immemorial. Medicinal plants are used at the household level by women taking care of their families, at the village level by medicine men or tribal shamans, and by practitioners of classical traditional systems of medicines. The global market for medicinal plants has always been very large. However, it is only during the last decade that the real significance of the medicinal plants sector has begun to be realized.

In the last few years there has been an increasing exploitation of these medicinally important plants by large number of pharmaceutical companies for commercial use. This has created imbalance in the ecosystem and there is a threat of becoming these species rare and extinct from common habitat. There is the need to collate the available information regarding the development of Medicinal Plants in the country in order to obtain a comprehensive overview, which will provide necessary insight for coordinated and effective action.

areas of Udaipur, description of the plants in the area. The techniques of preparing traditional medicines have been documented by expert taxonomist. Indian Environmental Society also explores scope of cultivation and propagation of rare species.

The Society has also identified some of the threatened, vulnerable, and rare species of medicinal plants in Udaipur and at Phulwari ka nal, (a sanctuary located in Kotra Tehsil of Udaipur district). Several medicinal plants have been assessed as endangered, vulnerable and rare due to over-harvesting or unskilful harvesting in the wild. Deforestation is the biggest cause of habitat destruction in the area.

The Indian Environmental Society has organized many local training programmes among the community to create awareness among them regarding the importance of medicinal plants. During the training programme, information has been disseminated to the local/tribal people on the various issues of the medicinal plants and has also helped in developing new technologies of cultivation, harvesting, etc of the medicinal plants.

IES has been sharing information on medicinal plants in the study area as well as in other areas of the country among NGOs, Government agencies, policy makers, researchers etc. to create awareness about the medicinal

plants and their conservation. Further information about the project has also been provided in the website [www.iesglobal.org](http://www.iesglobal.org).

**Conclusion**

India not only has a rich cultural diversity but also high biological diversity. Ancient civilizations, notably the Indian Civilization, have a long history of using plants as an integral part of their traditional healing system. The ancient books like Charak Samhita Susruta, etc. provide us glimpses of how invaluable and efficient the traditional methods of curing various ailments were. The present revolution in the field of medicine towards Ayurvedic, Naturopathy, Unani and such systems, is not new but a revival and reassertion of our traditional medical practices. Though we are turning back to the traditional methods of treatment, there is a huge amount of ancient knowledge yet to be explored and documented. To achieve this goal sustained and well-directed effort is required.

Results of the project have been quite satisfactory. In spite of the large dimensions of the project activities, which were proposed to be performed in a very short time, IES has made every effort to ensure the successful implementation of all the activities under the project.



## COMMON MEDICINAL PLANTS

by Gaurav Sharma, IES

Since times immemorial, medicinal plants have occupied a place of prime importance. They continue to be important to people who do not have access to modern medicines. Even modern pharmaceuticals rely heavily on the same active principles. Medicinal plants and herbs contain substances known to modern and ancient civilizations for their healing properties. Until the development of Chemistry and, particularly, the synthesis of organic compounds in the 19th century, medicinal plants and herbs were the sole source of active principles capable of curing man's ailments. Scientists believe that if taken in the appropriate dose and form, medicinal plants can be as effective as pharmaceutical drugs. Usual forms of medicinal remedies are Infusions, Decoctions, Tinctures, Infused Oils, Essential Oils, Ointments, and Creams. Certain fruits, seeds, leaves, roots or stems consumed as such are also beneficial to the system. They contain medicinal properties that heal a variety of ailments and conditions. Some of the common plants, with their properties are given below.

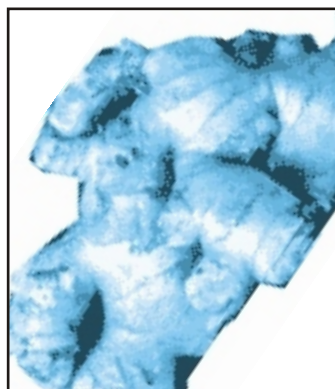
### Garlic



Botanically recognized as *Allium sativum*, Garlic is used to flavour food. Usually, its bulb is used in cooking, however some people use its leaves as well. Garlic consists of volatile oil, which has sulphur-containing compounds, and other useful compounds. It also contains enzymes including allinase, B vitamins, and minerals flavonoids. Actions: garlic is anti-microbial, diaphoretic, cholagogue, hypotensive, and anti-spasmodic. Garlic is among the few herbs that have a universal usage and recognition. Its daily usage aids and supports the body in ways that no other herb does. It is one of the most effective anti-microbial plants available, acting on bacteria, viruses and alimentary parasites. The volatile oil is an effective agent and as it is largely excreted via the lungs, it is used in infections of this system such as chronic bronchitis, respiratory catarrh, recurrent colds and influenza. It may be helpful in the treatment of whooping cough and as part of a

broader approach to bronchitic asthma. In general it may be used as a preventative for most infectious conditions, digestive as well as respiratory. For the digestive tract it has been found that Garlic will support the development of the natural bacterial flora whilst killing pathogenic organisms. In addition to these amazing properties, Garlic has an international reputation for lowering both blood pressure, blood cholesterol levels and generally improving the health of the cardio-vascular system. Experiments have indicated that the essential oil of Garlic possessed a distinct hypolipidemic, or fat reducing, action in both healthy people and patients with coronary heart disease.

### Ginger



*Zingiber officinale* or Ginger is a plant of which, the rootstock is most used. Pharmacologically important constituents include Volatile oil, containing mainly zingiberene and bisabolene, and a mixture of phenolic compounds. Actions: Stimulant, carminative, anti-spasmodic, rubefacient, diaphoretic, emmenagogue. Ginger may be used as a stimulant of the peripheral circulation in cases of bad circulation, chilblains and cramps. In feverish conditions, Ginger acts as a useful diaphoretic, promoting perspiration. As a gargle it may be effective in the relief of sore throats. Externally it is the base of many fibrositis and muscle sprain treatments. Ginger has been used world-wide as an aromatic carminative and pungent appetite stimulant. In India, and in other countries with hot and humid climates, ginger is eaten daily and is a well-known remedy for digestion problems. Its wide-spread use is not only due to flavor, but to the anti-oxidant and anti-microbial effects, necessary for preservation of food, essential in such climates. (Grandma's remedy: Pour a cup of boiling water onto 1 teaspoonful of the fresh root and let it infuse for 5 minutes. Drink whenever needed. Decoction: if you are using the dried root in powdered or finely chopped form, make a decoction by putting 1 1/2 teaspoonfuls to a cup of water. Bring it to the boil and simmer for 5-10 minutes. This can be drunk whenever needed.)

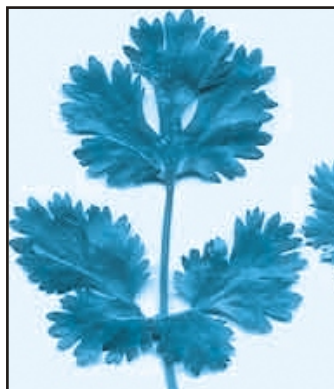
### Mustard



Brassica alba and Brassica nigra of the botanical family Cruciferae are well known by the names Black Mustard and White Mustard. Their seeds are the parts used. Mustard contains Glucosinolates and Black Mustard contains sinigrin, which on hydrolysis by the enzyme myrosin produces allyl isothiocyanate, and for White Mustard sinalbin, which produces phenyl isothiocyanate. Mustard also contains sinapine, sinapic acid, fixed oil, protein, mucilage etc. Actions: Mustard is a Rubefacient, irritant, stimulant, diuretic, emetic. This well known spice has its main use in medicine as a stimulating external application. The rubefacient action causes a mild irritation to the skin, stimulating the circulation in that area and relieving muscular and skeletal pain. Its stimulating, diaphoretic action can be utilized in the way that Cayenne and Ginger are. For feverishness, colds, and influenza, Mustard may be taken as a tea or ground and sprinkled into a bath. The stimulation of circulation will aid chilblains as well as the conditions already mentioned. An infusion or poultice of Mustard will aid in cases of bronchitis. GrandMa's remedy: Mustard is most commonly used as a poultice which can be made by mixing 100 grams (4 ounces) of freshly ground mustard seeds with warm water (at about 45 degrees C) to form a thick paste. This is spread on a piece of cloth the size of the body area that is to be covered. To stop the paste sticking to the skin, lay a dampened gauze on the skin. Apply the cloth and remove after 1 minute. The skin may be reddened by this treatment, which can be eased by applying olive oil afterward. Infusion: pour a cup of boiling water onto 1 teaspoonful of mustard flour and leave to infuse for 5 minutes. This may be drunk three times a day. Foot bath: make an infusion using 1 tablespoon of bruised seeds to 1 litre (2 pints) of boiling water.

### Coriander

Coriandrum sativum of family Umbelliferae goes back a long way. Coriander use as a medicinal plant has been reported since 1500 B.C. both as a spice and as a medicine. It aids digestion, reduces flatulence and improves appetite. It helps relieving spasms within the gut and counters the effects of nervous tension. Coriander is also chewed to sweeten the breath. It is applied externally as a lotion for rheumatic pain. Coriander essential oil is used in the manufacture of perfumes and cosmetics.



**Main Properties:** Digestive, antispasmodic, anti-rheumatic.

### Lemon

Citrus limon (Rutaceae), a native from Asia (probably from India), it is now widely cultivated in Italy, California and Australia. It is one of the most important and versatile natural medicines for home use. A familiar food as well as a remedy, it has a high vitamin C content that helps improve resistance to infection, making it valuable for colds and flu. It is taken as a preventative for many conditions, including stomach infections, circulatory problems and arteriosclerosis. Lemon juice and oil are effective in killing germs. It decreases inflammation and improves digestion.



**Main Properties:** Antiseptic, anti-rheumatic, antibacterial, antioxidant, reduces fever.



- In developing countries, plants are the main source of medicine. According to the World Health Organization, as many as 80% of the World's people rely for their primary health care on traditional medicines, most type of which use remedies made from plants. The use of traditional medicines in developing countries is increasing. Why? Populations are increasing, governments want to encourage indigenous forms of medicines rather than rely on important drugs and there are strong moves to revive traditional cultures.

## From the Print Media

**Parasitic plant threatens Valley of Flowers***The Hindu, Sunday, June 22, 2003*

All is not well with the world famous Valley of Flowers in Garhwal Himalayas. Scientists at the Almora-based G.B. Pant Institute of Himalayan Environment and Development have warned that the rich floral wealth of the National Park is facing a new threat – proliferation of ‘Dodder’, a parasitic plant.

According to the scientists, the plant, which coils around stems of the host plants and thrives on the nutrition it drains from them, has been found on different species of medicinal and flowering plants across the valley in patches.

What is most worrisome is that an important medicinal plant called Indira's Hand, which is also a critically endangered species, was found to be heavily infested by the parasite.

Indira's hand is used in several indigenous systems of medicine such as Ayurveda, Unani and the Tibetan systems as an aphrodisiac and a general tonic.

Surveys by scientists have shown that infestation by Dodder adversely affected the size and density of the host plants, especially those that showed low density.

In the case of Indira's Hand, for instance, while its overall density in the valley was 1.5 plants per sq.m., the density of infested plants was 0.5 per sq.m.

In other words, the frequency of infestation was as high as 30 percent.

Reporting their findings in a recent issue of science Journal, Current Science, the scientists' team led by Soumai Kant Joshi and Sanjay Gairola of the Conservation and Biological Diversity Department of the Institute, have stressed the need for immediate measures to study the various aspects of the problem that could be addressed before it reached a point of no return.

The new threat has come even as the authorities have been grappling with several other problems, such as grazing and proliferation of weeds.

Spread over 87.5 sq.km. of which 63.5 sq.km. is under snow and glacier, 5.29 sq.km. under semi-alpine forest and 18.63 under alpine meadows, the Valley of Flowers was declared a national park in 1982.

Located in a remote region of the Himalayas, it is one of the most popular destinations for botanists, as it houses a unique diversity of flora.

It also attracts a large number of tourists, as it is situated close to two important shrines – the Badrinath temple and Hemkund Sahib venerated by Hindus and Sikhs respectively.

**A Herbal Garden at Children's Park***The Hindu, Monday, September 22, 2003*

Following the setting up of a herbal garden at Rashtrapati Bhawan, another one has come up at Children's Park in India Gate. And while the idea of setting up the garden at Rashtrapati Bhawan was none other than that of the President, those who executed it thought that a garden was needed in public space and hence, this new garden has come up on a 250 square meter area in Children's Park.

“Planning for the herbal garden at Rashtrapati Bhawan was done by C-MAP. We were asked to execute it and will be maintaining the garden till next April,” says Dr. J. P. Singh of Greenways Nursery, who has to his credit the development of green landscape at the premises of various government and non-governmental organisations including that of the Nuclear Science Centre and the Airports Authority of India.

While executing the work of setting up the herbal garden at Rashtrapati Bhawan, Mr. Singh, a well-known horticulturist, thought another such garden at a place like Children's Park could help educate large groups of youngsters on medicinal plants. “We suggested the idea to Maruti Udyog Limited which is sponsoring the maintenance of Children's Park and they readily agreed,” points out Mr. Singh adding that work on the garden was completed by July and and it was thrown open to the public in August.

Since then, several groups of school children have visited Park. “The herbal garden at Rashtrapati Bhawan opens only once a year along with the Mughal Gardens. But this is open to school children and even adults who want to know more about medicinal plants round the clock,” says Dr. Singh. “Since we have been maintaining the Children's Park since 1988, it became easy for us to suggest the idea to Maruti and get it approved.”

# Messages



We acknowledge with thanks for the receipt of your E-letter on Panchayat Raj and Environment. It is a very useful newsletter and so we have placed it in our Environmental Information Library for the user's benefit.

(Dr. K. Thanseekran, CES, Anna University, Chennai)



Your efforts in publishing the newsletter are admirable..

(V.P. Kulshrestha, Consultant to Government of Rajasthan)



Your magazine Panchayat is very useful to us. It gives a lot of information about work done at the Panchayat level announced by the government of India and the States of India. This magazine will bring a very good result to all.

(Scot. Orissa)



It was great to see a newsletter like 'Panchayat', we appreciate your efforts towards sustainable development. It will be more useful if you will discuss the techniques of water harvesting in detail.

(Bharat Ratna Dr. Bim Rao Ambedkar Dalit Utthan Evam Shiksha Samiti, Del-96)



आपके द्वारा प्रेषित पंचायत पत्रिका प्राप्त हुई इसके लिए हार्दिक धन्यवाद पत्रिका में प्रेषित लेखों द्वारा पर्यावरण की दिशा में किए जा रहे कार्यों के बारे में पता चलता है।

(उपकार दन्त शर्मा, मेरठ)



वर्तमान पर्यवेक्ष में पंचायत पत्रिका बहुत ही सामयिक है इसके पृष्ठों की संख्या बढ़ाकर विषय विशेषज्ञों के और आलेख प्रकाशित किए जाएं।

(कुमार सेवा संस्थान, उन्नाव)



पंचायत पत्रिका मैंने एक संस्थान में देखी, पढ़कर काफी जानकारी मिली, समिति परिवार इस पत्रिका को अपने कार्यालय में मंगवाना चाहती है, कृपया उक्त पत्रिका को भेजने की अनुकंपा करें।

(जनक राज, मैनेजर, एस.के. पब्लिक स्कूल समिति)



मैं व्यक्तिगत रूप से इस पत्रिका को प्राप्त करना चाहता हूँ मुझे यह पत्रिका पुस्तकालय में पढ़ने को प्राप्त हुई तथा काफी ज्ञान वर्धक प्रतीत हुई।

(महात्मा गाँधी, चित्रकूट ग्रामोदय विश्वविद्यालय, मध्य प्रदेश)

# *Panchayati Raj & Environment*

ENVIS Newsletter

## Glimpse of the Website

[www.iespanchayat.org](http://www.iespanchayat.org)

The website has compiled all the relevant data and comprehensive information on different components of Panchayati Raj and Environment. The website contains information on databases developed; geographical distribution of Panchayats; success stories, areas of Panchayati Raj co-operation; elections, finance, query services; bibliography; resource repository etc.

We hope that the information contained in the website will suffice your requirements.

We would appreciate your comments & suggestion about the website so that we can update it as per the requirements of our browsers.

Wish you a Happy browsing on [www.iespanchayat.org](http://www.iespanchayat.org)

The Centre invites for Publications :

- Reports on Panchayati Raj (specially related to environment) and rural development
- Short report on seminars/workshops on the related topics are also invited. Those found suitable will be published in the newsletter.
- Articles for the newsletter "Panchayat" are invited.

### Forthcoming Events

- **7th Global Conference on Environmental Education**  
Date : September 19-23, 2005, Agra, India

#### Book Post

Please return, if undelivered :

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