

Peer-to-Peer Exchanges on Community Health and Traditional medicine (India)

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Global Workshop on

Biodiversity, Traditional Knowledge, Health and Well-being

Rio de Janeiro

27th July 2023

Medicinal Plants and Traditional Medicine - Indian Context



- Traded Medicinal plants of India (2014-2015) study - 1622 botanicals relating to 1178 species in commercial trade – 512000 MT – 242 species in main use (more than 100 MT) – 72% wild collection) – 57+7 species as food, aromatics) – around 20% growth – 650000MT by 2020 (Ved & Goraya 2008)
- Large and medium scale industries around 3% of the 8610 licensed industries, consuming 66% of the trade
- Indian Traditional Medicine (AYUSH) market was US\$ 18.1 billion in 2020 (<https://pib.gov.in/PressReleaseIframePage.aspx?PRID=1909096> - MAR 2023)

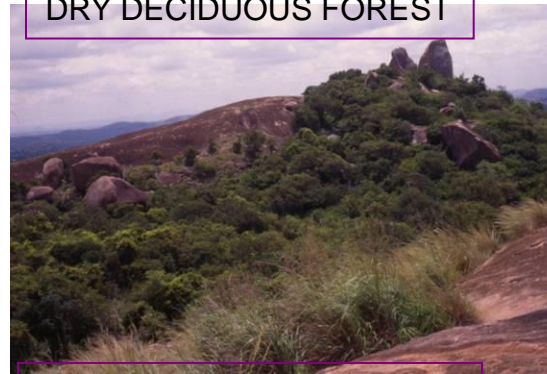
Evolution of Our Work

- Started from a Nation-wide Medicinal Plant Conservation and Traditional Medicine Revitalization program in India from 1995 by FRLHT
- Most comprehensive database on medicinal plants of India (along with a herbarium and raw drug collection program) and research on multiple aspects of medicinal plants and AYUSH systems
- A large network of conservation sites (in-situ and ex-situ) and resource centres were established across different states along with the Ministry of Environment, Forests & Climate Change and a number of NGOs
- Global networking and building policy interface in collaboration with multilateral agencies led to Biodiversity and Community Health Initiative (BaCH)

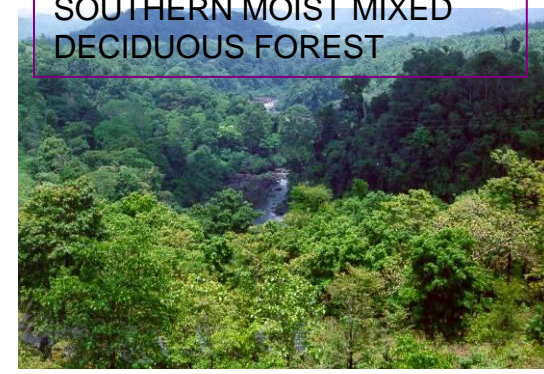
Medicinal Plant Conservation, Community Health & Livelihoods



DRY DECIDUOUS FOREST



SOUTHERN MOIST MIXED DECIDUOUS FOREST



TROPICAL DRY EVERGREEN FOREST



SOUTHERN MONTANE WET TEMPERATE FOREST



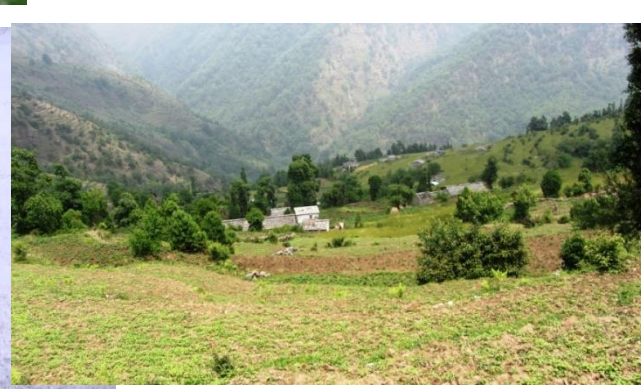
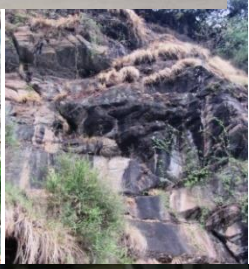
Project area = 13 states in India

Conservation sites = 108

Medicinal Species Conserved = ~ 2000

316 medicinal plant species belong to different endangered categories (UNDP India 2014).

- Action with forest departments in respective states
- Covers various bio-geographic zones, several red listed species protected, nurseries established and villages served
- Threat assessments, populations studies, mapping, community participation



Integrated Databases on Multiple Aspects of Traditional Medicine



Encyclopedia on Indian Medicinal Plants

Here you can find information of Medicinal Plants in following 2 ways

Botanical Namewise | **Vernacular Namewise**

A unique, well-researched, comprehensive database on Indian Medicinal Plants is now available for researchers, academicians, school students, ethnobotanists, conservationists, resource managers, nature enthusiasts..

Towards this direction, FRLHT has been developing over the past 20 years a comprehensive database on Indian Medicinal Plants. It covers various subject linked to natural resources used by Indian System of Medicine such as botanical and local names correlation, geo-distribution data, maps, propagation, trade information etc. This is a well referenced dynamic database. It grows based on authentic scientific publications available in the said area.

This exclusive and innovative search based database stores **7,637 botanical names (6,198 medicinal plants species)** with **119183 vernacular names** from **12 languages** across India. Nearly **2688 plant images** are also available in the database.

Just explore to know more. Give us your feedback to envis@frlht.org

Biodiversity and Community Health Initiative



- United Nations University – (IIGH & IAS) worked on the Planetary Health Commission, Urban Health, Ecosystems & Health; hosted the initiative
- Part of the State of Knowledge Review (SOK) on Biodiversity and Health
- Interagency Liaison group meetings (WHO & SCBD)
- Various side events from COP 10 to COP 14 on Biodiversity and Health
- Regional Workshop in Manila 2018 for South East Asian Countries hosted by ASEAN Centre for Biodiversity
- Asean Centre for Biodiversity (ACB) report – Food and Nutrition, Non-communicable diseases, Traditional Medicine & COVID Pandemic (2021)
- Expert Working Group (EWG) on Biodiversity, Climate Change, One Health and Nature-based Solutions
- Flagship program - Community to Community Learning Exchange programs with indigenous, local knowledge holders and traditional medicine practitioners

Biodiversity and Community Health Initiative

- Multi-partner initiative, Initiated in 2012 - focuses on synergizing efforts of different organizations and institutions to address health and wellbeing at the community level
- Partners include UN agencies, international research networks, NGOs, indigenous groups and networks



Red de Mujeres Indígenas en Biodiversidad



Strategies & Outcomes

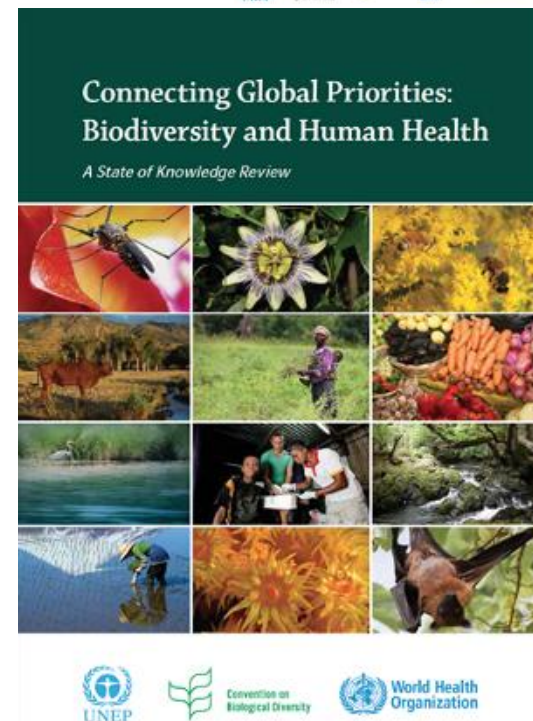
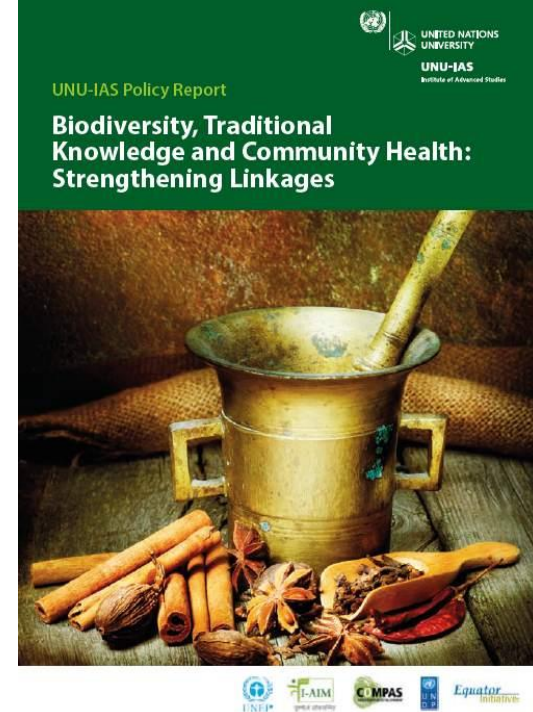
- **Research**

- Policy reports and briefs on biodiversity, traditional knowledge and community health; Contribution to the State of Knowledge Review, (led chapter on traditional medicine, chapter on climate and health)
- Research lines and publications on on Biodiversity, TK and Health; Climate; Ecosystems and health

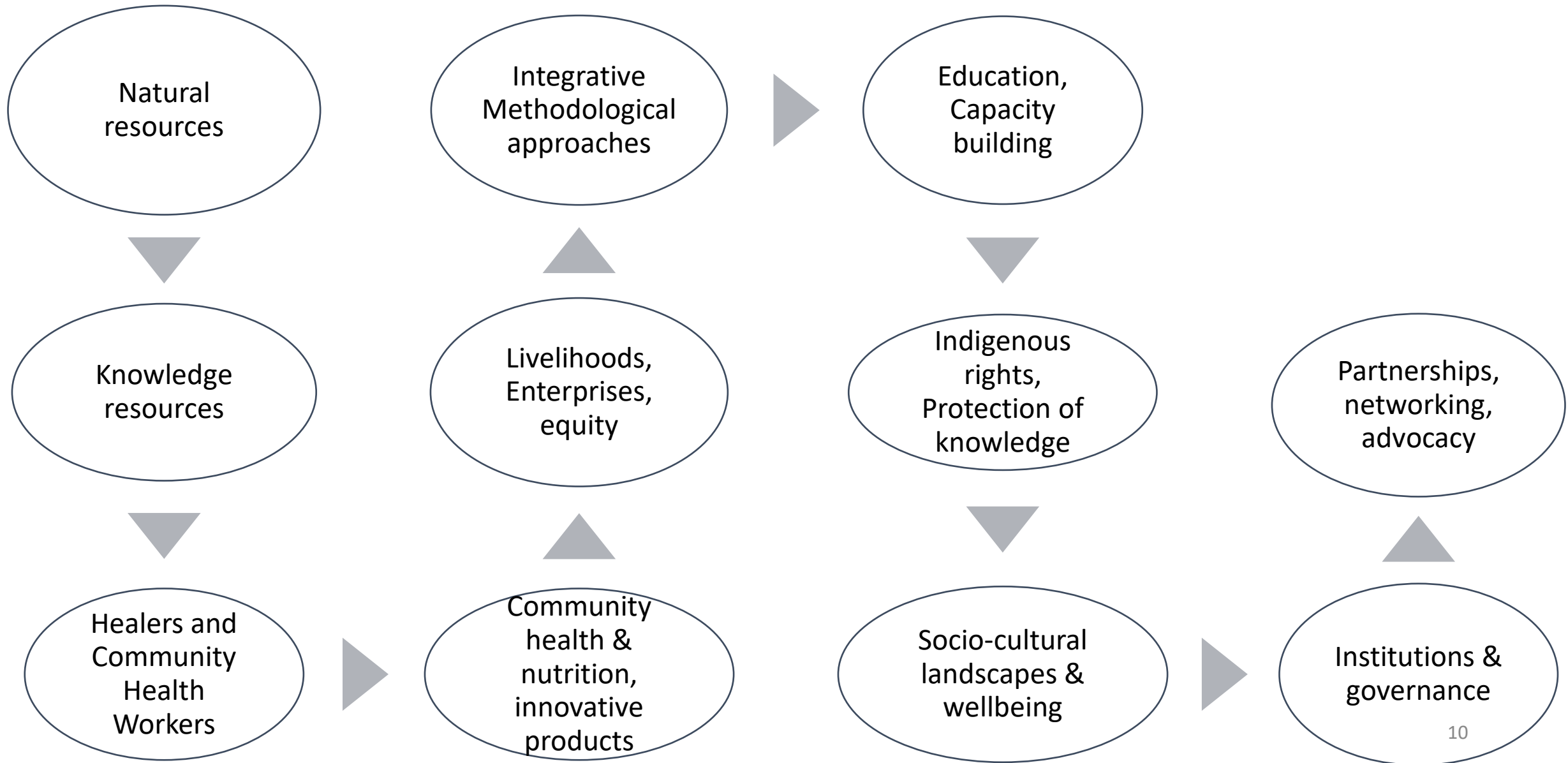
- **Networking** – (IAS and IIGH) BaCH initiative, Natural Livestock Farming network (NLF), RCE Network, ProSPER.Net, Satoyama Initiative and other national and regional networks

- **Capacity building** – Community to Community Exchange; Educational programs – short term and intensive

- **Policy linkages** – CBD, ASEAN Centre for Biodiversity, National programs



Biodiversity, Traditional Medicine & Health - Work Dimensions



International Community to Community Exchange Programs (from 2006)

1. Healers and indigenous communities and local Peoples (IPLCs) capacity building programs on traditional medicine, conservation, Access and benefit sharing (ABS) etc.
2. Student exchange at graduate level
3. Professional Exchange programs – physicians, veterinarians, Community Health Workers

Partnering organizations

- Biodiversity and Community Health Initiative
- United Nations University (IAS & IIGH)
- UNDP Equator Initiative
- UN Environment
- Secretariat of Convention on Biological Diversity
- Bioversity International
- Traffic International
- ETC-Compas
- GIZ ABS Capacity Building Initiative
- International Natural Livestock Farming Foundation
- Various academic institutions

Participants from

- Americas (Guatemala, Chile, Peru, Mexico, Bolivia, Brazil, Canada, USA etc.)
- Africa (Cameroon, Nigeria, Uganda, Ethiopia, Kenya, South Africa, Lesotho, Namibia, Tanzania, Zimbabwe, Madagascar, etc.)
- Asia (Kyrgyzstan, Nepal, Bangladesh, Sri Lanka, Thailand, Cambodia, Malaysia, Philippines, Korea, Indonesia, Fiji, Australia, New Zealand, Japan etc.)
- Europe & UK (Netherlands, Italy, Germany, France, Romania, UK, Poland, Switzerland etc.)

National & International Traditional Healers' Exchange Programs



ABS Capacity Building Exchange Programs



Traditional Medicine and Community Health Workers Learning Exchanges



Conservation and Sustainable Use Linked Learning Exchange & Training programs

Sustainable Harvest of Medicinal Plants



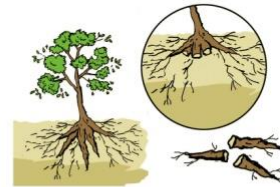
Medicinal and Aromatic (MAPs) are in high demand. However, there is not adequate supply. In order to bridge this gap, MAPs from the wild are being over-extracted for higher profits. This is threatening the existence of the plants. Slow-growing plants with poor regeneration potential are especially being pushed to the brink of extinction.

Therefore, MAPs need to be harvested wisely, meeting our needs of the present and ensuring adequate supply in future. If we harvest plants in a scientific, sustainable and responsible manner, we will have plenty left for the future.

Here are some useful tips for sustainable and scientific harvesting:

For Roots & Tubers

Do not uproot a plant entirely, leave the younger roots and tubers intact so the plant can continue to grow.



For Twigs/Branches

Do not cut the tree trunk or big branches. Collect only twigs. Allow the tree to regenerate.



For Seeds

Leave some ripe seeds behind. These will germinate to give more trees.



For Bark

Stripping the bark completely exposes a tree to infection, decay, death and stunted growth. Remove the bark only in patches.



For Young Trees

Do not harvest and uproot young trees. Allow them to grow. They will yield higher returns when they are older.





JOURNEY OF A MEDICINAL & AROMATIC PLANTS CULTIVATOR

Wish to cultivate medicinal and aromatic plants?

1



2



Visit **Jadi Booti Shod Sansthan (HRDI)**, Chamoli. HRDI provides information, training, seeds & saplings of medicinal plants free of cost. HRDI has a master trainer available in every district. Call the HRDI, Chamoli office for information on local trainers.

If a cultivator wishes to purchase planting materials from other sources, HRDI offers a 50% subsidy on the total planting costs (includes planting material, water, labour cost etc.). Planting costs for all species are fixed by the State Government.



Center for Aromatic Plants (CAP) and Bhesaj Vikas Ikai also provide planting materials and related services. CAP provides training and planting materials for aromatic plants. Bhesaj Vikas Ikai has coordinators in every district.

IMP: Before leaving, collect registration forms from HRDI as they need to be filled in later and sent back for registration purposes.

3

Take the planting materials home and plant them as advised during the training.



Which species did you get: in what quantities?
.....
.....
.....

4

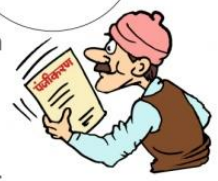
Within one month, HRDI / CAP / Bhesaj Vikas Ikai will verify if at least 75% of planting materials have been planted in the fields.



Are you ready to send the registration form? Don't forget to record the date!

5

If everything is declared to be in order, send the filled-in registration form to HRDI for registration. **No other organization is authorized to give registration certificates.**



6

Resume farming



7

One month prior to harvest, apply to HRDI for Transit Pass. Either HRDI or CAP will visit to determine the expected quantity of harvest



When will the institution come for inspection?

Transit Pass Alert!! When will you harvest your produce?

8

Engage in scientific harvesting of produce as directed during the training.



Carry the raw material directly to one of the **mandis** for auctioning.



Approach the **Van Nigam / HRDI / CAP / Bhesaj Sangh / SMPB** for guidance regarding markets / interested buyers for both raw material and processed products.

Sell the raw material directly to a private buyer.

Add value to raw materials (for higher profits) before selling the products to private buyers.



Once the Transit Pass has been obtained, the cultivator has 4 options to market the produce.

9

Bhesaj Vikas Ikai & Bhesaj Sangh
8-A, Bengali Library Road, Dehradun, Uttarakhand
Telephone: 0135-2744789

Herbal Research and Development Institute (HRDI)
Mandal - Gopeshwar, Chamoli - 246401, Uttarakhand
Telephone: 01375-254773, 254210
E-mail: director_hrdi@yahoo.in; Web: www.hrdiak.org

State Medicinal Plants Board (SMPB), Uttarakhand
94, Vasant Vihar, Phase-II, P.O. New Forest, Dehradun - 248006, Uttarakhand
Telephone: 0135-2769918; E-mail: sundgufak@gmail.com; Web: www.herbaluttarakhand.org

Uttarakhand Forest Development Corporation
Aranya Vikas Bhawan, 73, Nehru Road, Dehradun - 248001, Uttarakhand
Phone: 0135-2657610 Fax: 0135-2653488; E-Mail: ufdcdm@yahoo.com, vanvikas12@gmail.com

Herbal Mandis:
Bibhal Mandi, Rishikesh, Dehradun - 249201, Uttarakhand
Phone: 0135-2212202
Auction Dates: 7 & 22 of every month
Tanakpur Mandi, Tanakpur, Champawat - 262309, Uttarakhand
Phone: 05943-265794, 265832
Auction Dates: 6 & 19 of every month

Aamfanda Mandi, Ramnagar, Nainital - 244715, Uttarakhand
Phone: 05947-251368
Auction Dates: 15 & 30 of every month
60 Floating Mandis across the State of Uttarakhand



Help Conserve Medicinal and Aromatic Plants!

Know Them **Use Them** **Cultivate Them**

2013



Jatamasi
Nardostachys grandiflora

January

Mon	Tue	Wed	Thu	Fri	Sat	Sun
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

Status: On the brink of extinction!

Found at 3000 - 5000 metres

Rhizomes and roots used in medicines to treat stomach problems

12th Jan - National Youth Day



Chirayata
Swertiya chirayita

February

Mon	Tue	Wed	Thu	Fri	Sat	Sun
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28			

Status: On the brink of extinction!

Found at 1800 - 3000 metres

Whole Plant used in blood purifying tonics and to treat stomach problems

2nd Feb - World Wetlands Day
28th Feb - National Science Day



Thuner
Taxus baccata

March

Mon	Tue	Wed	Thu	Fri	Sat	Sun
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

Status: Becoming rare!

Found at 2100 - 3300 metres

Leaves and bark used in anti-cancer medicines

21st March - World Forestry Day
22nd March - World Water Day



Atis
Aconitum heterophyllum

April

Mon	Tue	Wed	Thu	Fri	Sat	Sun
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

Status: Becoming rare!

Found at 3000 - 4000 metres

Tubers used in medicines to cure chronic fever

7th April - World Health Day
22nd April - Earth Day



Meetha Bish
Aconitum balfourii

May

Mon	Tue	Wed	Thu	Fri	Sat	Sun
	1	2	3	4	5	
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

Status: In danger!

Found at 2800 - 4200 metres

Tubers used in medicines to cure arthritis

22nd May - International Day for Biological Diversity



Harad
Terminalia chebula

June

Mon	Tue	Wed	Thu	Fri	Sat	Sun
				1	2	
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

Status: In danger!

Found at 300 - 1300 metres

Fruits, along with fruits of *Amla* and *Baheda*, used in making *Triphala*

5th June - World Environment Day
17th June - World Day to Combat Desertification and Drought

Globally Significant Medicinal Plants (GSMP)
Medicinal and aromatic plants that are vulnerable to destructive harvesting due to very high demands. A few of these species are also most difficult to cultivate on a large scale.

Flagship GSMP
Some priority species marked for conservation in an MPCAs. Each of the 7 MPCAs of Uttarakhand has a set of flagship species. All plants shown in this planner are flagship species.



Medicinal Plants Conservation Area (MPCA)
A network of natural sites or forests demarcated to conserve medicinal and aromatic plants in their natural habitat.

Medicinal Plants Development Area (MPDA)
The area around MPCAs from where medicinal and aromatic plants can be scientifically and sustainably harvested.



Jeevak
Malaxis muscifera

July

Mon	Tue	Wed	Thu	Fri	Sat	Sun
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

Status: On the brink of extinction!

Found at 1800 - 3600 metres

Pseudobulbs used as *Asthivarga* in *Ayurveda*

11th Jul - World Population Day



Amla
Emblia officinalis

August

Mon	Tue	Wed	Thu	Fri	Sat	Sun
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

Status: Safe!

Found upto 1370 metres

Fruits, along with fruits of *Harad* and *Baheda*, used in making *Triphala*

9th Aug - International Day for World's Indigenous People



Satwa
Paris polyphylla

September

Mon	Tue	Wed	Thu	Fri	Sat	Sun
30						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29

Status: Becoming rare!

Found at 2200 - 3200 metres

Roots used in medicines to treat asthma and intestinal worms

16th Sep - World Ozone Day
28th Sep - Green Consumer Day



Kutki
Picrorhiza kurroa

October

Mon	Tue	Wed	Thu	Fri	Sat	Sun
1	2	3	4	5	6	
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

Status: On the brink of extinction!

Found at 3000 - 4500 metres

Rhizomes and roots used in medicines to cure jaundice and stomach ache

1st Monday of October - World Habitat Day
13th Oct - International Day for Disaster Risk Reduction



Hathajadi
Dactylorhiza hatagirea

November

Mon	Tue	Wed	Thu	Fri	Sat	Sun
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	

Status: On the brink of extinction!

Found at 3000 - 5000 metres

Tubers used in tonics to treat general weakness

20th Nov - Universal Children's Day



Balchad
Arnebia benthamii

December

Mon	Tue	Wed	Thu	Fri	Sat	Sun
30	31					1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29

Status: On the brink of extinction!

Found at 3000 - 4500 metres

Roots used in hair and heart tonics

11th Dec - International Mountain Day

Look up these terms!!

In danger! - Vulnerable
Becoming rare! - Endangered
On the brink of extinction! - Critically Endangered

Designations from the International Union for Conservation of Nature Red List of Threatened Species

For further information please contact:
State Medicinal Plants Board (SMPB) Uttarakhand
94, Vasant Vihar, Phase-II, P.O. New Forest, Dehradun - 248 006
Telefax: 0135-2769918; Email: undpgefuk@gmail.com; Web: www.herbaluttarakhand.org

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S. Raina
CEE Himalaya
FRLHT, Bangaluru
GBPHEED, Almora
SMPB, Uttarakhand



CEE
Centre for Environment Education



Veterinary & Health Professionals - Antibiotic Reduction in Livestock Farming (NLF Network) - One Health Approach

India, Ethiopia, Uganda and the Netherlands



Five layer strategy for natural livestock farming and antibiotic reduction in dairy farming

Extra payment

Milk quality control

Use of medicinal plants

Strategic use of local breeds

Improved animal & farm management

Mainstreaming in India

https://nddb.coop/node/1593

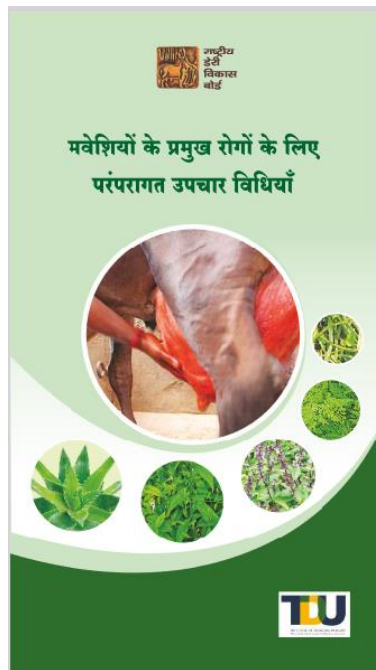


राष्ट्रीय डेरी विकास बोर्ड
NATIONAL DAIRY DEVELOPMENT BOARD

HOME ABOUT SERVICES INFORMATION RESOURCES


Ethnoveterinary formulation for Mastitis/blood in milk

Medicine preparation
(To be freshly prepared every day)



राष्ट्रीय डेरी विकास बोर्ड

मवेशियों के प्रमुख रोगों के लिए परंपरागत उपचार विधियाँ



https://www.nddb.coop/farmer/health/evm

Farmer's Corner

NDDB Home Health Nutrition Breeding Dairy

Home > Health


Ethno-Veterinary Preparations:

- Ethnoveterinary Preparations - Assamese
- Ethnoveterinary Preparations - Bengali
- Ethnoveterinary Preparations - English
- Ethnoveterinary Preparations - Gujarati
- Ethnoveterinary Preparations - Hindi
- Ethnoveterinary Preparations - Kannada
- Ethnoveterinary Preparations - Malayalam
- Ethnoveterinary Preparations - Marathi
- Ethnoveterinary Preparations - Odia
- Ethnoveterinary Preparations - Punjabi
- Ethnoveterinary Preparations - Tamil
- Ethnoveterinary Preparations - Telugu


BooKlat on Animal Health

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Mastitis (all types)




Aloe vera




Mustard or Gingelly oil



Lemon



Lime




Turmeric Powder

Oil based Preparation

Ingredients : For one day
Aloe vera (whole leaf) - 250 g; Turmeric powder - 50 g; Calcium hydroxide (lime) - 15 g; Lemon - 6 no.s ; Mustard or Gingelly oil - 600 ml.

Preparation:
(i) Cut Aloe vera whole leaf into small pieces (after removing the thorns),(ii) Blend along with turmeric powder and lime to form a reddish paste.

Application:
(i) Wash, clean and completely milk out all quarters (including unaffected) and dry the udder,(ii) Take a handful of the paste and add 200ml of mustard or gingelly oil to make it thin, (iii)Apply the paste diluted in oil three times a day for 5 days each time after following the step (i) above. (iv) Feed two lemons orally at a time (cut into halves) thrice a day for 3 days.




Scan this QR code to view the video on YouTube

https://www.dairyknowledge.in/#

Dairy Knowledge Portal


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Gir Cow
Cattle Breed-Gir

User login
Log in/Register

Facebook



e-GOPALA

For more information about scientific feeding and Pashu Aadhaar, download app by scanning the QR code

EFFECT OF CLIMATE ON MAMMALIAN REPRODUCTION
"EFFECT OF CLIMATE ON MAMMALIAN REPRODUCTION " by Saroj Rai, Scientist, ICAR-National Dairy Research Institute, ERS, Kalyani, West Bengal and Rani

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HEALTH

'Ethnoveterinary medicine will be a game changer for dairy in India'

Down To Earth speaks to Meenesh Shah, chairman, NDDB on EVM use in the Indian dairy sector

By Deepak Bhati
Published: Thursday 24 November 2022



Ethnoveterinary medicine as an alternative approach is gaining ground both among veterinarians and farmers alike, according to NDDB Chairman, Meenesh Shah. Photo: iStock

Future Directions

- Global biodiversity framework calls for whole of government and whole of society approaches - this gives mandate also to environment sectors to speak to and act with other sectors
- Emphasis on agency of non state actors (peer learning exchanges and activities can help develop different capacities)
- Emphasis on fostering traditional knowledge systems in solutions towards sustainability (in conservation, sustainable use, equity and further also in monitoring and assessments)
- Strengthen linkages between value addition- resource use and wellbeing priorities



Thank you !

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