

IORA-RCSTT MPNET NEWSLETTER

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From Director's Desk



Inside this Issue:

From Director's Desk	1
Short Article	2
News	4
Dietary Remedies	6
Ayurveda	6
Past Event	7
Upcoming Conferences	8

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This would be the second issue of IORA-MPNet Newsletter. In our first issue, we introduced our network and its responsibilities toward improving medicinal plants industry in IORA region. This time, we are seeking Member States' cooperation at a higher level. As it mentioned before, the aim behind establishing IORA-MPNet is to strengthen connections and cooperation with the medicinal

different range of topics in the field of medicinal plants and gives valuable information to our members.

At the end, I appreciate the time and effort that have been devoted by the different contributors to launch IORA-RCSTT MPNet Newsletter and would like to thank them all.

Dr. Mahmoud Molanezhad

plants focal point of each IORA Member States in order to support applied research, technology transfer and commercialization in the field of medicinal plants in IORA region.

This goal will not be achieved unless introduced an active herbal focal point is introduced by each IORA Member State. Fortunately, some of the Member States including Egypt, India, Indonesia, Iran, Madagascar, Malaysia, Mauritius, Oman, Seychelles, Sri Lanka, Tanzania, Thailand, U.A.E and Yemen have already introduced

their herbal focal points. It will be appreciated if the other Member States and Dialogue Partners could kindly nominate their well qualified candidates from among interested institutes and organizations/Centers of Excellence in their esteemed countries which can cooperate with the IORA-RCSTT as the Focal Point for the Regional Network on Medicinal Plants (IORA-RCSTT MPNet) endorsed at the Eleventh Meeting of the IORA Council of Ministers dated November 9-15, 2011, Bengaluru, India (Document No. IOR/17AG/REP/11/07).

As before, our Newsletter covers a

Editorial



We are happy to see that the July newsletter is ready to go to press. This issue reports on a number of significant topics in medicinal plant areas informing readers about news and important issues of this area; so that they can strengthen closer cooperation among IORA Member States. As always, suggestions and comments towards improving the newsletter contents are warmly welcome. Please forward your contributions to the Editor-In-chief at:

info@mpnet.iora-rcstt.org





Medicinal plant sources: Challenges and Solutions

According to the study carried out by Kuipers for FAO, there are two sources of supply of medicinal plants: i) material collected from the wild; and ii) cultivated material.

Wild harvesting

The bulk of the material traded (both domestically and internationally) is still wild harvested and only a very small number of species are cultivated. It is difficult to provide accurate global data on the volume of wild harvested medicinal plants as it is very difficult to distinguish between wild and cultivated material. One major concern is the fact that a significant part of wild harvested material is now traded commercially. As the prices paid to the gatherers tend to be very low, commercial plant gatherers of the natural resources main objective is to generate an income rather than manage them. Although there are many common species that can be harvested sustainably and with little impact on their survival, an increasing number is not in this category. One particular concern for the sustainability of the wild resource is the fact that many of the materials are the roots of plants, which are the

the most difficult plant parts to harvest sustainably. Therefore, some plants are close to extinction from over-harvesting or unskillful harvesting.

Cultivated materials

Cultivated material is more suitable for large scale uses, such as the production of drugs by pharmaceutical companies, which require standardized products of guaranteed or known content and quality. These quality requirements are becoming



increasingly important as drug regulations become more stringent in many countries. Argentina, China, Hungary, India, Poland and Spain are examples of countries that cultivate some materials on a large scale. Requirements of successful commercial cultivation operations are to produce high quality drugs using low input cultivation methods while recognizing that the material

material has to compete on a highly competitive international market.

Given the higher cost of cultivated material, cultivation is often done under contract. In the majority of cases, companies tend to cultivate only those plant species which they use in large quantities or in the production of derivatives and isolates, for which standardization is essential and quality is critical. Some grower cooperatives or collaborative ventures have been set up to enable growers in some countries to achieve greater negotiating power and achieve higher prices.

These have tended to be in developed countries, such as the Netherlands, and in Eastern European countries which export significant quantities to the rest of Europe and to North America.

“Although there are many common species that can be harvested sustainably and with little impact on their survival, an increasing number is not in this category.”

Globally, the areas cultivated are limited because cultivated material bears higher production costs, must have secure land ownership or access and requires more sophisticated (and costly) management expertise. Costs must be carried for long periods – in many cases over ten years. The low prices of wild harvested material make the return to low cultivation in many cases.



THE MARKET DEMANDS ...

Wild Harvested Plants because ...	Cultivated Material because ...
It is cheaper since it does not require infrastructure and investment	It guarantees continuing supply of raw material
Many species are only required in small quantities that do not make cultivation economically viable	It makes reliable botanical identification possible
For some plant parts extra-large cultivation areas are required (e.g. Annicaproducts for flowers)	Genotypes can be standardized or improved
Successful cultivation techniques do not exist, e.g. for slow growing, habitat specific taxa	Quality standards are easy to maintain
No pesticides are used	Controlled post-harvest handling is possible
It is often believed that wild plants are more powerful	Production volume and price can be agreed for longer periods
	Resource price is relatively stable over time
	Certification as organic production is possible

“Solution to the problems requires greater cooperation between those producing, harvesting and trading in the plant material.”

But

There is a risk of adulterations	It is more expensive than wild harvest
There is a risk of contaminations through non-hygienic harvest or post-harvest conditions	It needs substantial investment before and during production

Wild harvesting versus cultivation of medicinal and aromatic plants:



FOR SPECIES AND ECOSYSTEMS IT IS BETTER TO ...

wild harvest because ...	cultivate because ...
It puts wild plant populations in the continuing interest of local people	It relieves harvesting pressure on very rare and slow-growing species which are most susceptible to threat
It provides an incentive to protect and maintain wild populations and their habitats and the genetic diversity of MAP populations	
But	
Uncontrolled harvest may lead to the extinction of ecotype and even species	Devaluates wild plant resources and their habitats economically and reduces incentive to conserve ecosystems
Common access to the resource makes it difficult to adhere to quotas and the precautionary principle	Narrows genetic diversity of gene pool of the resource because wild relatives of cultivated species become neglected
In most cases knowledge about the biology of the resource is poor and the annual sustained yields are not known	It may lead to conversion of habitat for cultivation
In most cases resource inventories and accompanying management plans do not exist	Cultivated species may become invasive and have negative impacts on ecosystem
	Reintroducing plants can lead to genetic pollution of wild populations

Pressure on the natural resources is increasing for the plants which are in greatest demand. In many situations this is causing concern for the long-term sustainability of the natural resource. Appropriate management of medicinal plant resources is needed to help conserve biodiversity and provide critical resources to build sustainable rural livelihoods. Solution to the problems requires greater cooperation between those producing, harvesting and trading in the plant material, including governments which often have responsibility for much of the resource. Councils, unions and networks can create a great influence on medicinal plant production globally, by offering new methods and academic results in plant cultivation and harvesting to different countries.



Medicinal plants News

Amazon plant yields miracle cure for dental pain
Cambridge University
Françoise Barbira Freedman

The world may soon benefit from a plant long-used by indigenous people in the Peruvian Amazon for toothaches, eliminating the need for local injections in some cases. Researchers have created a medicinal gel from a plant known commonly as spilanthes extract (*Acmella Oleracea*), which could become a fully natural alternative to current anesthetics and may even have a wide-range of applications beyond dental care. "We could be looking at the end of some injections in the dentist's surgery. We've had really clear result from the tests so far, particularly for periodontological procedures such as root scaling and planing, and there are many other potential

applications.

The native forest people described to me exactly how the medicine could and should work and they were absolutely right," Françoise Barbira Freedman, said in a press release.

Freedman has now founded pharmaceutical company Ampika Ltd., which is linked to Cambridge University.



FROM A PERSPECTIVE OF THE PEOPLE IT IS BETTER TO ...

Wild harvest because ...	Cultivate because ...
It provides access to cash income without prior investment	It secures steady supply of herbal medicines (home gardens)
It provides herbal medicines for health care needs	It provides in-country value-adding
It maintains the resources for rural populations on a long-term basis (if done sustainably)	
But	
Unclear land rights create ownership problems	Capital investment for small farmers is high
This income and health care resource is becoming scarce through over harvesting	Competition from large scale production puts pressure on small farmers and on wild harvesters
	Benefits are made elsewhere and traditional resource users have no benefit return (IPR)

commercial arm. A portion of proceeds from the company will also be shared among the Keshwa Lamas people; they introduced her to the power of spilanthes extract, which is grown ornamentally around the world but native to the Amazon who Freedman still visits. Beyond dental operations, the gel may also alleviate infant pain during teething. "There are a range of mucous tissue applications it could benefit, and may even help bowel complaints such as IBS (irritable bowel syndrome)," says Freedman. The medicinal gel is currently in trials, but Freedman says she expects it to be on the market by 2014 or 2015.

This news can be found at:

www.mongabay.com

GIANT PANDA FRIENDLY' MEDICINAL PLANT HARVESTING PROJECT WINS EQUATOR PRIZE

A project to promote sustainable harvesting of wild medicinal plants in the mountains of China's Upper Yangtze ecoregion has won the prestigious Equator Prize 2012.



The Equator Prize recognizes outstanding local initiatives working to advance sustainable development solutions for people, nature, and resilient communities in countries receiving support from the United Nations Development Program (UNDP). Over-harvesting of wild medicinal plant species is a serious conservation concern aside from problems caused by the harvesting itself, the collectors can also have serious secondary impacts through camping within reserves, hunting, and gathering fuel-wood to dry commercial

quantities of medicinal plants. Such habitat destruction and disturbance also threatens endangered wildlife, including the Giant Panda (*Ailuropoda melanoleuca*) and the Takin (*Budorcas taxicolor*). Due to a 1998 logging ban and a 2000 "Grain for Green" program which discourages farming on steep slopes, households compensated for a loss of income through the collection of medicinal plants in the Upper Yangtze.

"This project is proving that local harvesters from villages surrounding the Giant Panda conservation area can successfully implement meaningful sustainability standards," said Josef Brinckmann, VP of Sustainability for TMI.

To help alleviate the environmental damage, initiative was developed through a comprehensive collaboration between WWF, IUCN, and TRAFFIC as part of the EU-China Biodiversity Program (ECBP), which led to local producer association members, harvesters, and governmental officials receiving training in the as application of the Fair wildimplementation of organic wild crop harvesting practices and certification

procedures, as well Standard principles.

A survey of project sites in March 2011 found incomes from medicinal plant collection had risen. Thanks to the certification schemes; in one village by almost 18 percent over 2007 levels. In the case of Schisandra berries (*Schisandra sphenanthera*), international and local buyers paid at least 30 percent above normal market prices for certified produce. In 2010, more than five tons (dry weight) of Schisandra fruits were sustainably harvested of which more than three tons were sold to Draco Natural Products (DNP Shanghai) for production of a concentrated dry extract specified by U.S.-based Traditional Medicinals Inc (TMI). The project has also scaled up from one village in the 2008 and 2009 harvests up to 22 villages in the 2011 harvest.

This news can be found at:

<http://www.traffic.org/home/2012/5/16/panda-landscape-project-on-sustainable-use-of-wild-medicinal.html>

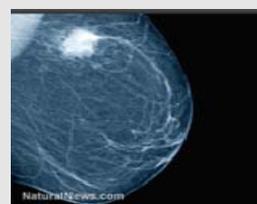
AFRICAN MEDICINAL PLANTS MAY STOP TUMOR GROWTH FROM MULTI-DRUG RESISTANT CANCERS RESEARCH

Traditional African medicinal plants may contain naturally occurring compounds that effectively kill drug-resistant cancers, according to research conducted by Victor Keute of the *University of Dschang* in Cameroon and Thomas Efferth of Johannes Gutenberg University Mainz in Germany.

"The active substances present in African medicinal plants may be capable of killing off tumor cells that are resistant to more than one drug," Efferth said". They thus represent an excellent starting point for the development of new therapeutic treatments for cancers that do not respond to conventional chemotherapy regimens."

This news can be found at:

http://www.naturalnews.com/040947_cancer_treatment_african_plants_medicinal_herbs.html#ixzz2jZoxo850



Herbal Dietary Remedies and Daily Consumption



Herbal Tea

Herbal tea, is any non-caffeinated beverage made from the infusion or decoction of herbs, spices, or other plant materials in the hot water. These drinks are distinguished from caffeinated beverages like coffee and the true teas (black, green, white, yellow, oolong, etc.), as well as from decaffeinated tea, in which the caffeine has been removed. In addition to serving as a beverage, many herbal teas are also consumed for their perceived medicinal benefits. Herbal tea is made from many plants, using not just the leaves, but also the flowers,

In this section, we introduce a kind of herbal tea in each issue. We hope enjoy it!

Ginger Tea

Ginger tea has a spicy, invigorating taste. It's used as a home remedy for indigestion, nausea, and to ward off colds, flu, and sore throats. Ginger tea is very easy to make. Here is a recipe for you to try.



Note: Keep in mind that if you are making ginger tea as a home remedy during cold and flu season, sweeteners are not recommended.

Ginger Tea Recipe

water, 4 cups

1 inch piece of fresh ginger root

Optional: honey and lemon slice

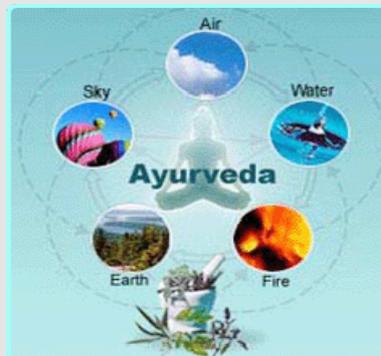
Peel the ginger root and slice it into thin slices. Add the ginger to the boiling water. Cover it and reduce to a simmer for 15-20 minutes. Strain the tea. Add honey and lemon to taste.



Ayurveda



Ayurveda is riginating from the two Sanskrit words, ayus (life) and veda (science), Ayurveda is an ancient healing system originating in the Indian subcontinent that relies on herbs for maintaining good health. Historical records suggest that the journey of Ayurveda began in India more than 5,000 years ago, and this traditional system of healing has influenced both Unani humor therapy conceptualized by Hippocrates and ancient Chinese remedies. The science and practice of Ayurveda are narrated in ancient texts, of which the Charaka Samhita is the principal resource. The Charaka Samhita refers to a large collection of Hindu



sacred texts called the Vedas. Written in the Indus Valley area around 1000 BC in Sanskrit, the Charaka Samhita is a treatise on general medicine. This strongly suggests the probability that Ayurveda, though of pan Indo-European origins, had begun to evolve into a distinct entity within the Indian subcontinent by the first millennium BC.

Herbs are at the heart of Ayurvedic medication. Whole flowers, roots, stems and leaves are manually processed in various ways to discover their optimal potential. Over 15,000 herbs are mentioned in the scriptures of which only around 850 are commonly used in Ayurvedic medicine today. One of the most commonly used herbs in Ayurveda is Neem. Described as sarva roga nivarini or that which keeps all diseases at bay, Neem supports the body's natural defense system. Apart from Neem, Ginger, Amla and Ashvagandha, among others, feature highly in the list of important plants in this traditional medicinal system.

Past Event



THE FIRST MEETING OF MEDICINAL PLANTS FOCAL POINTS OF IORA RCSTT CUM EXHIBITION SALALAH – SULTANATE OF OMAN , 23-25 JUNE, 2014

The First Meeting of Medicinal Plants Focal Points of IORA RCSTT Cum Exhibition was held in Salalah – Sultanate of Oman during 23-25 June, 2014. This meeting was jointly organized by the IORA RCSTT and the Oman Animal and Plant Genetic Resources Center of the Sultanate of Oman in cooperation with Dhofar University and the Oman Animal and Plant Genetic Resources Center (OAPGRC), The Research Council (TRC) of the Sultanate of Oman.

The meeting was attended by the resource persons and private sector from Egypt, India, I. R. Iran, Malaysia, Seychelles, Sri Lanka, Thailand and the Sultanate of Oman. This programme covered different topics such as policy making, regulation, standardization, technology transfer and commercialization, import and export of medicinal plants and herbal medicines and networking in IORA region in the framework of IORA Medicinal Plants Network (IORA MPNet).

Totally, 17 presentations (including country reports) which covered the above topics were presented during the Meeting. The delegates expressed unanimously that the meeting has been a resounding success in coming up with focused recommendations and actions as below:

1. The participants have expressed their support to improve and reinforce IORA Medicinal Plants Network (IORA MPNet) on applied research, technology transfer and commercialization of Medicinal Plants and Herbal Medicine Technology by annual joint activities.
2. To continue the experts' meetings program, this

event shall be held at least annually, each time hosted by one or more countries which are voluntarily selected in the previous meeting with IORA RCSTT as the biannual host.

3. An Ad Hoc committee on Standards and Standardization for medicinal plants and herbal medicine has been established which it would be chaired by Dr. Anil Kumar Tripathi, CSIR-Central Institute of Medicinal and Aromatic Plants of India and focal points of Malaysia, I. R. Iran, Thailand, Seychelles, Sri Lanka, Egypt and the Sultanate of Oman as members.
4. The representative from Sri Lanka, India and Malaysia proposed to host the next meeting in their respective countries in 2014/2015. India, in addition, proposed to organize the training program as well. However, the participants from Egypt and Seychelles would explore the possibility of hosting for IORA Member States in 2015/2016.
5. Dhofar University, Salalah, Oman initiated a proposal to start collaboration with CSIR-CIMAP, Lucknow, India, for development of a research/academic program for characterization and conservation of the

biodiversity of medicinal plants in Dhofar region of Oman. Moreover, a signage of the Memorandum of Understanding initiated between Dhofar University and the private sector participants to work on developing and transferring technological methods of producing herbal medicine and any other herbal processing products.

6. The private sector participants of this meeting met the counterpart in the chamber of commerce of the Sultanate of Oman to explore the possible technology transfer and business cooperation.
7. The delegations request the respective governments of the Member States to support their focal points of Medicinal Plants to attend all the activities of IORA RCSTT annually and that the required permission to be provided to them to attend such programs when it is needed during the year.

At the end, during the closing ceremony of the meeting, all the participants were granted the certificate of their attendance in the Meeting.

It is worth mentioning that all the participants were generously provided with full free hospitality by the government of Sultanate of Oman.



WELCOME TO BECOME MEMBER AND TO GET BUSINESS IN THE WORLD OF IORA!



Based on IORA-MPNet key role in improving medicinal plants area, we are highly pleased to inform you that one of the IORA-MPNet assignments is to introduce medicinal plant companies and their products. In order to commercialize knowledge-based products in medicinal plants, IORA-MPNet has presented some selected products on its website (mpnet.iora-rcstt.org). Besides, IORA-MPNet introduces these products to therapeutic traditional medicine centers. Therefore, contact us to introduce your company to IORA-MPNet Newsletter and to advertise any new or special products of your company on IORA-MPNet website.

We're on the web!
mpnet.iora-rcstt.org

**IORA-MPNet**

Upcoming Events on 2014

Workshop on Research, Development and Regulations of Herbal Medicines of the Indian Ocean Rim Association (IORA) Member States

July 24, July 2014 to July 25, 2014

Bangkok, Thailand

<http://mpnet.iora-rcstt.org/events/workshop-research-development-and-regulations-herbal-medicines-indian-ocean-rim-association>

3rd National Congress on Medicinal Plants

May 14, 2014 to May 15, 2014

Mashhad, Iran

<http://www.ncmp2014.com/>

3rd International Jujube Symposium

August 17, 2014 to August 22, 2014

Brisbane, Australia

http://www.ihc2014.org/symposium_43.html

International Symposium on Plants, as Factories of Natural Substances, Edible & Essential oils

August 17, 2014 to August 22, 2014

Brisbane, Australia

http://www.ihc2014.org/symposium_42.html



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