

R & D Achievements

Uttarakhand State Council For Science & Technology

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DEVELOPMENT OF AGRO-TECHNOLOGIES OF SOME RARE, THREATENED AND ENDANGERED TAXA OF HIMALAYAN MEDICINAL HERBS

Development of field applicable agro technologies of *Aconitum atrox*, *Aconitum heterophyllum* and *Saussurea lappa* medicinal Plants and their extension to the local growers through training programme as well as the successful preparation of “Seed Park” (FieldGene Bank) coupled with the promotion of herbal cultivation by providing the seed material vis-à-vis technical know how to the populace are the main outputs of the project.

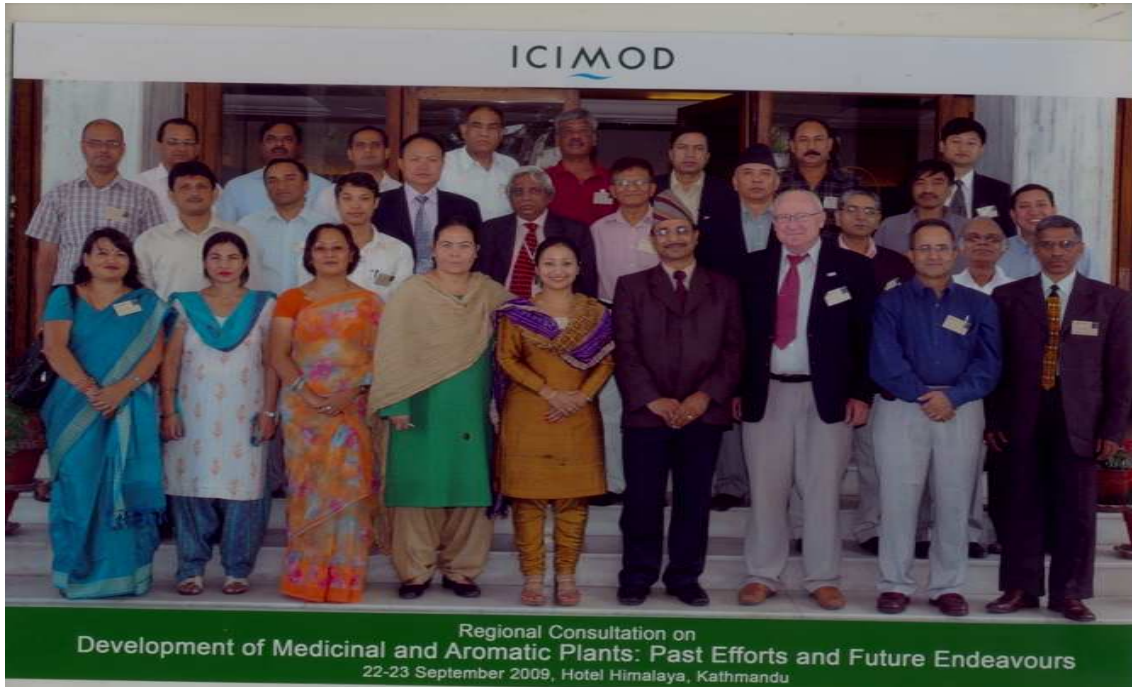
The outcome of the awareness programme in context with the conservation and cultivation of medicinal plants was that a large number of villagers are ready to adopt the practice of ex-situ conservation through cultivation for their economic upliftment but due to availability of planting material resources only a few growers were provided the germplasm .. In due course of time, an adequate amount of planting material will be prepared for providing to the desirous families of the locale.

The technologies of multiplication of medicinal plants were imparted to the local villagers in the extensive field level training programme (TRUGA Camps) at the project demonstration site. Besides, the methodology for active people participation in conserving the MAP biodiversity, the ex-situ conservation of rare and threatened taxa through cultivation, results of innovative techniques for mass scale propagation as well as other important aspects in this direction were presented in regional seminars, national conference and international symposiums.

The research findings have been highlighted in the Regional Consultation on Maps: Past Efforts and Future Endeavour organised by **HVPVC/SLPR/ICIMOD** on **22-23 September 2009** at Kathmandu ,Nepal as well as **Fourth World Ayurvedic Congress** and international seminar on "**Conservation, Cultivation, Sustainable Collection, Processing and Marketing of Medicinal Plants**", in which a guest lecture was delivered on "**Increasing Gender-balanced livelihood Security through Conservation & Cultivation of High Altitude Medicine Plants: Uttarakhand Himalaya India**" on 11th and 12th December 2010 at Bangalore.



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Department of AYUSH
 Ministry of H & FW, Government of India

Department of AYUSH
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 Government of Karnataka

DEPARTMENT OF AYUSH
 Ministry of Health & Family Welfare
 Government of Karnataka, Bangalore.

**International Seminar on "Conservation, Cultivation, Sustainable Collection, Processing,
 and Marketing of Medicinal Plants" with focus on RET species**

4 World Ayurveda Congress & AROGYA EXPO
 9th - 13th December 2010, Bengaluru, Karnataka, INDIA

Certificate

This is to certify that Prof. / Dr. / Mr. / Mrs. Dr. Kiran Anun Badoni has
 attended the workshop on "Conservation, Cultivation, Sustainable Collection, Processing and Marketing of Medicinal
 Plants" organised by Department of AYUSH / Department of Forest, Government of Karnataka and sponsored by National
 Medicinal Plants Board from 11th - 12th December, 2010 as Participant / Guest Speaker / Poster Presentation.


Dr. Ravi Rajesh, IFS
 Chief Executive Officer
 Karnataka Medicinal Plants Authority (KAMPA)


Bal Prasad, IFS
 Chief Executive Officer
 National Medicinal Plants Board


G. N. Sreekanthiah, IFS
 Director, Dept. of AYUSH-Gok and Chairman
 4th World Ayurveda Congress Events Organising Committee

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Specific Features of Selected Species

Selected Species	Planting Space (in cm)	Seeds/Kg (in No.)	Germination (in %)	Seed Production Per Plant (in gm)	Dry Material /Plant (in gm)
<i>Saussurea lappa</i>	60 x 60	40,000	67	6	250
<i>Aconitum atrox</i>	30 x 30	4,00,000	60	1.5	30
<i>A.heterophyllum</i>	20 x30	3,00,000	62	1.2	02

Production of Raw Material per Hectare (After three years)

Selected Species	Number of Plants	Dry Material /Plant (in gm)	Market Prices of Dry Raw Material (@Rs./Kg)	Total Raw Material Production (in Kg)	Total Production
<i>Saussurea lappa</i>	27,500	250	100	6,875	6,87,500
<i>Aconitum atrox</i>	1,10,000	30	250	3,300	8,25,000
<i>A. heterophyllum</i>	1,65,000	02	3000	330	9,90,000