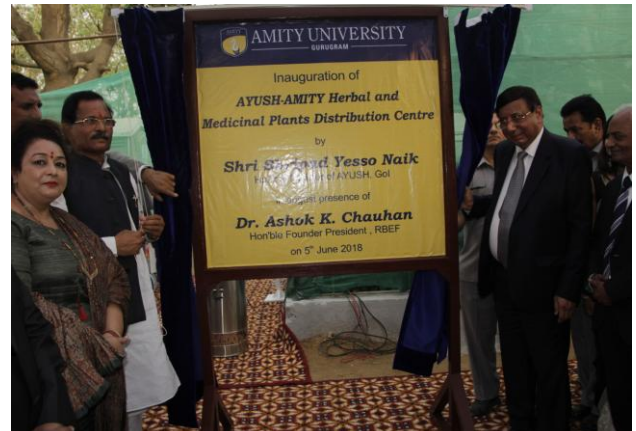


REPORT ON INAUGURATION OF AYUSH – AMITY HERBAL & MEDICINAL PLANTS DISTRIBUTION CENTRE AND AMITY INSTITUTE OF INDIAN SYSTEM OF MEDICINE



5TH JUNE 2018



“Scaling new frontiers of Translational Research on Herbal & Medicinal Plants at Amity University Haryana”

PROGRAM
Inauguration of
AYUSH-Amity Herbal and Medicinal Plants Distribution Centre
&
Launch of Amity Institute of Indian System of Medicine
By
Shri Shripad Yesso Naik, Hon'ble Minister of AYUSH, GoI
5th June 2018

04:45 - 05:10 PM	Arrival of Guests Welcome Tea in Block-D
05:00 – 05:15 PM	Arrival of Guests and Dignitaries at Herbal Garden
05:20 PM	Arrival of Founder President, Dr Ashok K Chauhan at Herbal Garden
5:30 PM	Arrival of Hon'ble Minister of AYUSH, Shri Shripad Yesso Naik (Founder President, Dr. Ashok K. Chauhan and Chancellor, Dr. Atul Chauhan, Dr. Aseem Chauhan, Dr. W Selvamurthy and Vice Chancellor, Prof. P. B. Sharma along with other dignitaries receive Hon'ble Minister of AYUSH)
05:30 – 05:50 PM	Inauguration of Herbal Garden by (Hon'ble Minister AYUSH and Founder President). Dignitaries and invitees to grace the occasion to be present
05:50 – 06:00 PM	Hon'ble Minister of AYUSH, Founder President & other dignitaries arrive at Block –D (Quick visit to exhibition on major R & D initiatives & Innovation in the Block-D Foyer)
06:00 – 06:10 PM	Founder President and other dignitaries interact over a cup of tea at VVIP Lounge, Block –D (Thereafter escorted to Block-D Auditorium)
06:10 – 06:15 PM	Floral welcome & Lighting of Lamp & Saraswati Vandana
06:15– 06:20 PM	Brief Video on Amity Education Group
06:20 – 06:25 PM	Welcome Address by Prof. (Dr.) PB Sharma, VC, AUH
06:25 – 06:30 PM	Address by Dr. W Selvamurthy, President ASTIF
06:30 – 06:37 PM	Address by Dr. Ashok K Chauhan, Founder President, RBEF
06:37 – 06:40 PM	Felicitation of Chief Guest and Dignitaries and Release of Souvenir, Coffee table book & Compendium “Medicinal Florestics of AUH” by Hon'ble Minister of AYUSH, Shri Shripad Y. Naik
06:40 – 06:55 PM	Address by Hon'ble Minister AYUSH, Shri Shripad Yesso Naik
06:55 – 06:58 PM	Vote of Thanks by Maj Gen BS Suhag, Dy VC, AUH.
07:00 PM	Hi-Tea in VVIP Lounge, D-Block

Date – 5th June, 2018

Ministry of AYUSH with Amity University launches the AYUSH – Amity Herbal & Medicinal Plants Distribution Centre and Amity Institute of Indian System of Medicine on World Environment Day



Welcome of Hon'ble Minister of AYUSH, Shri Shripad Yesso Naik by Founder President RBEF, Dr. Ashok K. Chauhan, Director General ASTIF, Dr. W Selvamurthy, Vice Chancellor AUH, Prof. P. B. Sharma and Mayor Gurugram Smt. Madhu Azad.

On the occasion of World Environment Day, Ministry of AYUSH in collaboration with Amity University Haryana (AUH) had set up an “AYUSH – AMITY HERBAL AND MEDICINAL PLANTS DISTRIBUTION CENTRE” which was inaugurated by Shri Shripad Yesso Naik, Hon'ble Union Minister of State, Ministry of Ayurveda, Yoga and Naturopathy, Unani, Siddha and Homoeopathy at University Campus, Haryana. “AMITY INSTITUTE OF INDIAN SYSTEM OF MEDICINE” was also announced by the Founder President Amity Education Group, Dr Ashok K Chauhan, Dr P B Sharma, Vice Chancellor, Amity University, Haryana and other senior officials and dignitaries.



Ho'ble Minister of AYUSH Shri Shripad Yesso Naik with Founder President Dr Askok K. Chaihan inaugurated the AYUSH – AMITY HERBAL AND MEDICINAL PLANTS DISTRIBUTION CENTRE

The center will produce herbal plants and local medicines with a view to create public awareness and boost the scientific efforts to make India, a world leader in Ayurvedic, Unani, Naturopathy, Homeopathic and Siddha health care. This project is earmarked for the benefit of local farmers and to provide vast opportunities for the youth of its vicinity for employment and agriculture growth.



Inauguration of AYUSH – AMITY HERBAL AND MEDICINAL PLANTS DISTRIBUTION CENTRE by Hon'ble Minister of AYUSH, Shri Shripad Yesso Naik in presence of Founder President Dr Ashok K. Chauhan along with dignitaries to graced the occasion.



Hon'ble Minister of AYUSH Shri Shripad Yesso Naik with Vice Chancellor AUH, Prof P.B. Sharma visited the Amity Research and Innovation Exhibition at D-Block Foyer.



Inaugurating the AYUSH – AMITY Herbal & Medicinal Plants Distribution Centre and Amity Institute of Indian System of Medicine, Hon'ble Union Minister of State, Shri Shripad Yesso Naik said that holistic development is the motive of our Government and the ministry is working on the lines of the vision of Hon'ble Prime Minister of India who promotes the message of '*Sabka Sath and Sabka Vikas*'. He shared that in the last three years, AYUSH has been well introduced throughout the world, since this system of medicines is in the purest form, and it is our responsibility to promote this across the globe. Briefing about the initiatives by AYUSH Ministry, Shri Naik apprised that various health schemes are initiated in every state, as part of the scheme, an AYUSH doctor will be stationed at every primary health centre while the treatment and the medicines will be budgeted from the ministry itself. He also shared his vision to establish an AYUSH hospital comprising 50 beds in every district providing treatments of Ayurveda, homeopathy etc. Shri Naik lauded the research and innovations by the brilliant scientists of Amity and also extending the benefits to farmers. Due to this, the ministry decided to collaborate with Amity. He further remarked that the research conducted through this centre will aid the farmers and will help in increasing their income. He stressed that with AYUSH, people are now connecting back to their roots and improving the lifestyle by use of natural remedies.



Launch of Amity Institute of Indian System of Medicine by Hon'ble Minister of AYUSH, Shri Shripad Yesso Naik and Hon'ble Founder President Dr Ashok K. Chauhan.



Release of AYUSH souvenir “Amiherb” by Hon’ble Minister of AYUSH, Shri Shripad Yesso Naik



Release of a Compendium “ Medicinal Florestics of AUH” edited by Prof S M Paul Khurana and team with Prof Rajendra Prasad, Director AIB, AIISH.



Founder President addressed the participants giving Vision and Mission of AMITY to strengthen the AYUSH activities and programs.

Addressing the gathering, Dr Ashok K Chauhan, Founder President, Amity Group stressed that Amity has complete belief in natural remedies including Ayurveda, Yoga, Unani, Siddha and Homeopathy. He added, "It is our mission to promote the benefits of herbal and natural medicines across the world in collaboration with Ministry of AYUSH". Commenting on natural remedies making foray into the world, Dr. Chauhan averred that the modern world is now looking towards India and there has been significant rise in the demand of traditional medicines and treatment. He added, "Many diseases can be cured through natural treatment like knee pain can be treated through Yoga, stress can be relieved through meditation." Amity scientists belonging to pharmacy, biotechnology and agri sciences shall together engage in the cutting edge research and innovation strengthen the scientific foundation of Indian system of medicines. Amity University being a research and innovation driven university has filed 900 plus patents. Founder President Dr Ashok K. Chauhan expressed his profound gratitude to Hon'ble Minister of AYUSH, Shri Shripad Yesso Naik for giving a dedicated herbal centre at Amity University Haryana for furtherance of research in the field of herbal medicine.



Prof. P. B. Sharma, Vice Chancellor AUH shared the AMITY's mission to Green India - Clean India

Welcoming the Hon'ble Minister of AYUSH Shri Shripad Yesso Naik and the dignitaries on the dias, **Vice-Chancellor of Amity University Haryana Prof. P. B. Sharma** expressed his profound gratitude to Hon'ble Minister for his gracious presence at the inauguration of Ayush – Amity Herbal & Medicinal Plants Distribution Centre and Amity Institute of Indian System of Medicine. Prof Sharma also opined that India is sitting on the goldmine of opportunities to take her herbal and ayurvedic medicines to the global market as the forth of natural medicines is increasing day by day. This vast treasure of Indian heritage requires the scientific inputs to translate the traditional knowledge into scientifically designed drugs and medicines. AUH along with AUUP shall engage into higher end translational research with an interdisciplinary approach to strengthen AYUSH's mission of internationally spreading herbal medicines.



Dr W Selvamurthy, President - ASTIF shared the role of AUH Herbal Centre in production & distribution of medicinal plants.

Throwing light on the project **Dr W Selvamurthy, President - Amity Science, Technology and Innovation Foundation and Director General for Amity Directorate of Science and Innovation** said “Herbal Garden was developed for production of medicinal plants, seedlings, plantlets, for distribution to primary schools, colleges, institution/ university. The garden has been created with the support of National Medicinal Plant Board (NMPB) AYUSH Ministry. The project would not make the farmers near Haryana, Delhi and NCR well aware but also increase their employability rate, especially of the youth. The idea of choosing Amity as the project venue is because of the work it is doing in the field of herbal plants and organic farming.



Dr Naval Kumar Verma, Chief Advisor AYUSH felicitated by Dr W Selvamurthy, President – ASTIF during the function.

Dr Naval Kumar Verma, Chief Advisor AYUSH apprised that because of Amity’s vision and mission on high end R&D, drug discovery and patenting of Herbal plants and medicines, Amity University has been chosen by AYUSH, a leading partner in promotion of cultivation, mentoring and training of local farmers at Ayush – Amity Herbal & Medicinal Plants Distribution Centre and Amity Institute of Indian System of Medicine.



Sh. Raghvan, OSD to Union Minister of AYUSH was felicitated by Prof. Padmakali Banerjee, Pro VC, AUH.



Dr Rajput and Dr Swati from AUUP were also felicitated by the Hon'ble Minister of AYUSH, Shri Shripad Yesso Naik during the function for the bringing up the project of Ayush – Amity Herbal & Medicinal Plants Distribution Centre.



Ms. Goodwill Kokhar of AUUP was felicitated along with Dr Viveak Ballyan of AUH by the Hon'ble Minister of AYUSH, Shri Shripad Yesso Naik for running the activities and smooth functioning of the Ayush – Amity Herbal & Medicinal Plants Distribution Centre.

The key dignitaries among the guests were Ms Shomita Das, CEO Medicinal Plant Board, Smt Madhu Azad, Mayor Gurugram, Maj Gen B S Suhag (Retd) DVC, AUH, Prof Padmakali Banerjee, Pro VC, AUH and Sh. Souri Sengupta, Registrar, AUH. More than four hundred senior officials, scientist's faculty members, research scholars, students of Amity were also present in the occasion. The Vote of thanks was given by Maj. Gen B.S. Suhag (Retd.), DVC, AUH.



The senior officials, scientist's faculty members, research scholars, students of Amity actively participated in the program held on June 5th, 2018 at D-Block Auditorium at AUH

HERBAL RESEARCH AND DEVELOPMENT ACTIVITIES AT AUH

Amity Centre for Medicinal Plants & Traditional Knowledge was established by Amity University Haryana in 2010 for maintenance and R&D for sustainable development of the medicinal plants sector. The Herbal Garden is spread over an area of 5 acres.

The main objectives of the Centre are sustainable development of medicinal and aromatic plants sector conservation of biodiversity, commercial cultivation, production of quality planting material, processing & value addition, education, product development, capacity building, consultancy, marketing, database and publications.

Since ages, the medicinal plants have been of great importance in human life to cure almost all diseases and keeping him completely fit throughout his life. In Vedic period, the great Indian Rishis and Aurvedacharyas revealed the great value of all medicinal plants available for human beings and put to various uses in thousand forms.



A view of Ayush – Amity Herbal & Medicinal Plants Distribution Centre at AUH, Manesar

In this regard, various Central Government organizations like Central Institute of Medicinal and Aromatic Plants (CIMAP) and State Government agencies are putting their best efforts to encourage its cultivation bringing more area under cultivation. They have launched various schemes under the program to strengthen support for its large scale adoption by the farmers. The adoption of the program would greatly benefit the farmers not only in terms of economic gain but also in improving the soil fertility and environment of the region. The recent trend of using the herbal medicine in every field has been growing at fast rate by the people becoming more health conscious. Hence, its cultivation could be adopted bringing more and more area under cultivation. It has been well documented that growing medicinal plants by forming cooperatives would certainly add income to the farmers through various market outlets and supply to the Ashram & drug companies especially for export.

Herbal Garden is being maintained on scientific lines and this is being used as a field laboratory for creating more awareness among the students, visitors such as foreigners, Government officials, bureaucrats, journalists, scientists, staff of Universities as well as farmers of the adjoining villages and small children coming from different schools. The teachers of the schools whenever they visit for showing these to their students are being sought after feedback of their opinion. Almost every teacher is of the view that this type of Garden help in educating the children about nature in general and medicinal plants in particular.

At present, the Herbal Garden is expanding as well as strengthened with a collection of 84 species by planting more than 12,000 herbal and medicinal plants. Students of Bio-Tech programs are engaged in different types of research activities in this Herbal Garden. This Garden is used by them as a field laboratory for their research. One patent has already been filed for harvesting equipment for thorny herbal crop.



Net (Green) House in Ayush – Amity Herbal & Medicinal Plants Distribution Centre.

Organic Farming:- Organic agriculture is being practiced at AUH campus for fruits, vegetables, medicinal plants, pulses, cereals and fodder crops. For fruit plantation under organic farming, plants such as Amla, Kinnow, Mango, Spota, Jackfruit, Blueberry, Grapes, Guava, Papaya, and Strawberry Pear have been grown. Some of these have been introduced in this region considering agro-climatic situations. Similarly vegetables crops such as potato, tomato, brinjal, cauliflower carrot, and radish are also grown organically. It has been observed that those grown under agro-organic conditions appear comparatively more attractive and are tasty. For the exact nutritional aspects of these crops, these will be examined in the laboratory in due course of time in consultation with Biotechnology Faculty.

As and when some delegation of the foreigners visits this campus, they are taken around the organic farm and herbal garden. They are explained the medicinal values of this plant for which they show great interest, requesting us to prepare some capsule course and short term training program on these medicinal plants .The preparation of this program is under process. Plant Health Clinic project is already going on in which the scientists provide technical knowhow and knowledge. For saving on irrigation water in this plantation, steps are taken in consultation with faculty of department of Water Resources Engineering from time to time. Zero Energy Cool Chamber is working which has been funded by foreign aid.

For preparation of Vermi-compost and its use in cereal crops and plantations standard practices have been adopted. We are in a position to meet the requirement of crops and plantations. This will be further strengthened in due course of time.

Bio-Gas plant is also in operation. Its operation and maintenance is done using scientific approach and gas from this plant is being utilized properly and slurry is regularly being used in organic farming. This being a renewable energy source help in reducing our dependence on conventional sources of energy thus reducing the pollution.

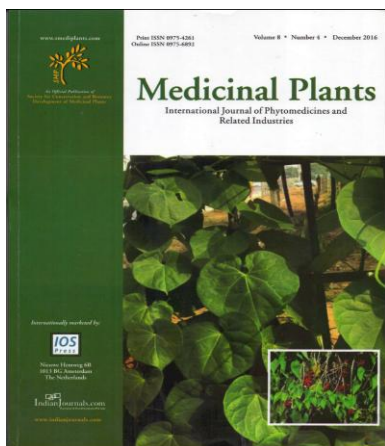
PROJECTS AND PATENTS ON MEDICINAL & HERBAL PLANTS AT AUH.

S. No.	Title (Patent/Project)	Year	Sanctioned budget	Funding Agency
1.	“ A Portable Harvesting Tool for Thorny Species”	2011	Journal Issue No.42/2010	Indian Patent Office (IPO)
2.	Establishment of plant Health Clinic	2011	Received (Rs.6.75 lacs)	National Horticulture Mission
3.	Establishment of Leaf/Tissue Analysis Lab	2011	10 lacs	Project(NHM)
4.	HRD for Gardener	2016	8.50 lacs	HSHDA (NHM)
5.	Farmer Training Program	2016	3.25 lacs	HSHDA (NHM)

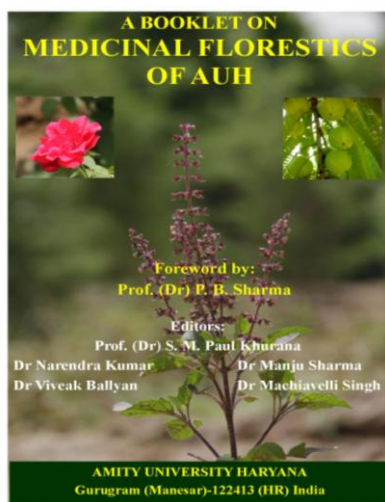
THE RESEARCH WORK OF AMITY UNIVERSITY HARYANA (AUH) GOT PUBLISHED ON COVER PAGES OF INTERNATIONAL JOURNALS AS SHOWN BELOW:



The cover image depicts a wilted tree with (bottom) and without (top) nanoferrite coating. The tree with the coating revives, while the leaves shred off without the coating. The image highlights the need to develop nanomaterial-based fungicides to protect plants, addressing a global challenge of saving plant life.



Tinospora Cordifolia is commonly known as Giloy or Gudichi It has a large glabrous, deciduous climber belonging to family Menispermaceae and is a potential source of nutritive minerals for human beings. The plant is rich source of diverse phytochemical



The Compendium on “Medicinal Florestics of Amity University Haryana (AUH)” covers the flora of herbal and medicinal plants at AUH and their importance for sustainability of Mother Nature and human health.

BIONNOVA – STATE OF ART RESEARCH LAB ON MOLECULAR DIAGNOSTICS AND DRUG DISCOVERY



Bionnova lab has been developed and inaugurated by Honorable Founder President Dr. Ashok Chauhan on the eve of Innovation Day 2017 at Amity University Haryana. Amity Institute of Biotechnology (AIB) and Amity Institute of Integrative Sciences and Health (AIISH) is running this major initiative under the leadership of Prof (Dr) Rajendra Prasad, Director AIB/ AIISH and Dean (Research) AUH. In continuation to extend the research and innovation mission at AUH, An effort has been made to establish a world class, ultra-modern infrastructure a Biotechnology lab under AIB and AIISH to facilitate the R&D projects with high-end precision and sophistication. A present focus is to expand the utilization of these major initiatives, under the above "BIONNOVA" lab by team of 6 scientists and 20 research scholars in the domain of Tuberculosis, Molecular Diagnostics, Virology and Drug Discovery. The lab is running 4 major R&D projects as follows:

1. Project: Identification of cGAMP specific phosphodiesterase from *Liesmania donavani* and its role in virulence
2. Project: Comparative Sphingolipid Profiling of Breast Cancer Cell and Tissue Types for Identification of Potential Metastatic Biomarkers”
3. Project: Unraveling the Role of mTORC2 in Regulation of Sphingolipid Biosynthesis in Breast Cancer
–
4. Project: Role of Cyclic di-AMP in ribosome biogenesis, 16S rRNA methyltransferase (RsmD) function and drug resistance in *Mycobacterium*.



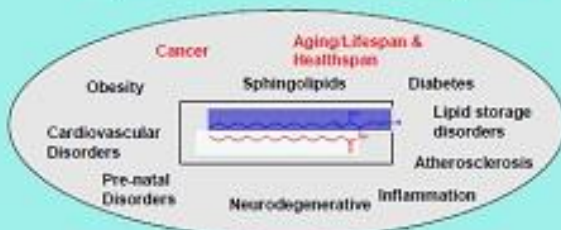
LIPIDOMICS CENTRE AT AMITY UNIVERSITY HARYANA

Amity Institute of Biotechnology (AIB)

Amity Institute of Integrative Sciences and Health (AIISH)

AMITY UNIVERSITY
GURGAON

Lipids in Disease and Development



ACADEMIC AND RESEARCH ACTIVITIES

- Interactive Masters Program
- Interdisciplinary PhD Program
- Research in Disease Biology
- Collaboration with Hospitals for Clinical Research
- Intellectual Property Rights (IPR)
- Bringing Amity On National and International Level in Area of Lipidomics

REGIONAL AND NATIONAL COLLABORATIONS

- All India Institute of Medical Sciences (AIIMS)
- Translational Health Science and Technology (THSTI)
- National Institute of Immunology (NI)
- Regional Centre for Biotechnology (RCB)
- Institute of Genomics and Integrative Biology (IGIB)
- Diabetes Centre Pune
- National Centre for Biological Sciences (NCBS)

“Fund for Improvement of S&T Infrastructure in Universities and Higher Educational Institutions (FIST) 2016” under Department of Science & Technology (DST)



1.65 crore funding to start Lipidomics Center

APPLICATIONS

- Lipidomics, Proteomics, Metabolomics
- Tools for diagnostics and treatment,
- Lipids as biomarkers: predictive and
- Food allergens, Food fraud testing
- Food nutritional testing
- Pesticide analysis
- Bioanalysis of therapeutic proteins and peptides

As CONTRACT RESEARCH ORGANIZATION (CRO)

- State of Art Training: Regular Inhouse, Local and National Level
- Organizing Workshops and Training: Local, National, and International
- As a Bioservice Provider
- Generate Extramural Funding for Research
- Develop a Self-Sustainable Working Model with Profits

Instrumentation set up



Projects with Extramural funding (DBT, DST) ready to use facilities at Lipidomics Center, AUH

Participants: Rajendra Prasad, Ujjaini Dasgupta, Gargi Bagchi, Salf Hameed, Zeeshan Fatima, Sangita Venkataraman, Krishna Murari Sinha, Manju Sharma, Machiavelli Singh, Surender Khatodia Ravi Datta Sharma, Tani Agarwal (AIB).

SPONSORED RESEARCH AGENCIES



सत्यमेव जयते

Science and Engineering Research Board (SERB)
Department of Science and Technology (DST)
Govt. of India



सत्यमेव जयते

Department of Biotechnology
Govt. of India



सत्यमेव जयते

Ministry of Earth Sciences
Government of India



Indian Space
Research Organisation



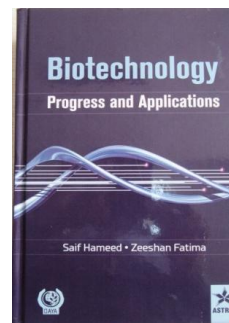
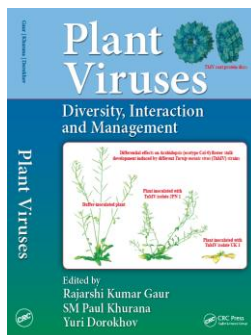
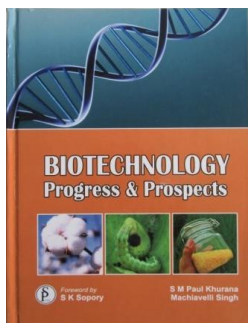
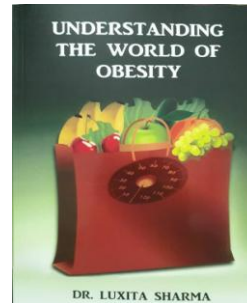
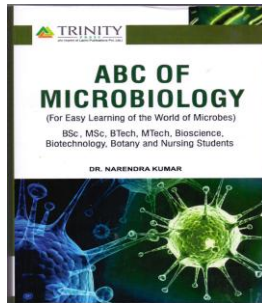
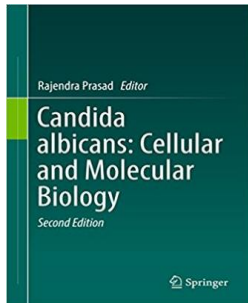
Department of AYUSH
Department of Indian Systems of
Medicine & Homoeopathy



भाभा परमाणु अनुसंधान केंद्र
BHABHA ATOMIC RESEARCH CENTRE



BOOKS PUBLISHED



PROJECT PROPOSED BY AMITY UNIVERSITY HARYANA TO AYUSH

“CONSERVATION, CULTIVATION AND VALUE ADDITION OF MEDICINAL AND AROMATIC PLANTS FOR SUSTAINABLE PRODUCTION AND RAW MATERIAL FOR THE INDUSTRY AND ENHANCING THE INCOME OF FARMERS”

Prof. S.M.P. Khurana, Prof. Manju Anand, Prof. Satish Sardana, Dr. Narender kumar

Herbal medicine is the oldest form of health care known to man and over 9000 herbs have known medicinal applications in various cultures and countries. The use and knowledge of medicinal plants is evidenced through ancient records of all major systems of medicine such as Ayurveda, Unani, Chinese medicine and Japanese Kampo. According to World Health Organization (WHO), 80% of the world's population, primarily those of developing countries depend directly on medicinal plants for the basic preventive and curative healthcare needs.

Medicinal synthesize and accumulate a variety of compounds to combat diseases and form the resource base for rapidly growing pharmaceutical industry. These herbal drugs are used in pharmaceuticals, nutraceuticals, cosmetics and as food supplements. Allopathic medicine too owes a tremendous debt to medicinal plants, as one in four prescriptions, filled in a country like United States is either a synthesized form or derived from plant material. Over the past few years, herbal remedies have regained a wide recognition and are making a comeback as the drugs obtained from plants are cheaper, exhibit a remarkable efficacy in the treatment of various ailments and are much safer with least side effects as compared to allopathic medicines. As a result, a growing awareness for extracting bioactive constituents from medicinal plants by industrialized society has brought global renaissance in the trade of these herbal medicines (UNESCO, 1998). Present demand for medicinal plants is approximately **US \$62 billion** per year and **demand** is likely to increase more than **US \$5 trillion by 2050**. In India, the **Ayurveda Drug Market** alone boasts of **Rs. 3500 crore (US \$ 150 million)** business excluding supplements and cosmetics. Medicinal plants, thus, offer remarkable opportunities to generate income and employment and to boost country's economy through foreign exchange.

Status of medicinal plants in India

India is a gene rich country and accounts for 8% of the total global diversity. Being the largest repository of medicinal herbs, India is called the “Botanical Garden” of the world. India is

among twelve most biodiverse countries of world having 16 agro climatic zones, 10 vegetative zones and 15 biotic provinces. There are about 45,000 plant species with continental hotspots in the region of Eastern Himalayas, Western Ghats and Andaman and Nicobar islands. The northern part of the country harbors a great variety of medicinal plants because of the majestic Himalayan range. In India, out of 17,000 species of higher plants, nearly 7500 species find their use as medicinal plants. Major families highlighted with medicinally important plants include Asteraceae, Liliaceae, Apocynaceae, Solanaceae, Rutaceae, Piperaceae and Sapotaceae (Annexures 1&2). The medicinal and aromatic plants cultivated in India have the potential for further expansion in a larger area. Unfortunately, the demand to supply ratio for various medicinal and aromatic plants in international market does not match with the production, necessitating an urgent realignment of cropping systems towards the cultivation of medicinal and aromatic with traditional agricultural crops.

Though India has a rich biodiversity, about 90% of the medicinal plants used by industries are collected from the wild with 70% of the plant collection involving destructive harvesting because of the use of plant parts like root, bark, wood, stem and the whole plant. The growing demand is putting a heavy strain on existing resources, which pose a definite threat to the genetic stock and biodiversity of medicinal plants, causing a number of plants to be either threatened or included in the endangered category. The assessments done so far for the prioritized native medicinal species, have resulted in assignment of IUCN red list status to nearly 250 plant species with 44 species being critically endangered, 113 endangered and 87 vulnerable. While research and development in the cultivation and processing of medicinal and aromatic crops has progressed well in India due to the concrete efforts of various organizations of CSIR and ICAR, the value-chain management of this sector has not received the desired attention so far. Keeping the challenges and opportunities in view, there is an urgent need to boost the cultivation as well as value-addition of medicinal and aromatic crops for making our country not only self-reliant but also in emerging as global leader in the production and supply of medicinal herbs, essential oils and their products. This will enhance the income of farmers and ensure sustainable supply of herbal and fragrant raw material of high quality to the industry. With an aim to increase the income of the farmers considerably, the project will help in limiting the migration of youths from

rural to urban areas in search of job opportunities due to falling productivity and profitability in agriculture.

Medicinal plants as source of bioactive compounds

Medicinal plants are important source of secondary metabolites which are potent bioactive compounds which are used as pharmaceuticals, agrochemicals, fragrance ingredients, food additives, medicinal and other dietary supplements. These metabolites include alkaloids, coumarins, glycosides, gums, phenols, tannins, terpenes, terpenoids, various types of acids (caffeic, chlorogenic, etc.), neutral water soluble oligosaccharides, essential oils and trace elements. There is an ever-increasing inclination towards the identification, isolation, purification and characterization of active ingredients in crude extracts of these medicinal plants by various analytical methods.

Aims of the project

- Conservation and large scale multiplication of useful medicinal and aromatic plant species including endangered and threatened ones.
- Development and deployment of superior varieties and their agro-technologies and assessment of their suitability for specific climatic regions for small and marginal farmers.
- Hands on training of surroundings farmers to promote cultivation of medicinal and aromatic crops.
- To enhance the farmer's income with assured buy-back mechanism to significantly improve their quality of life.
- Value-addition to medicinal and aromatic crops for the production of high-value herbal and aroma chemicals based products.
- To minimize threats originating from the extremes of weather conditions and utilisation of wastelands/underutilized lands by cultivating stress-tolerant aromatic and medicinal crops.
- Extraction and isolation of Phytoconstituents (secondary plant metabolites) viz alkaloids, glycosides, tannins resins, terpenes, flavonoids, essential oils, phytosterols etc using different chromatographic techniques like HPLC, HPTLC,

- Characterization & structure elucidation of novel Phytoconstituents using sophisticated equipments like Mass and NMR.
- To ascertain biological activities like anti-diabetic, hypetoprotective, wound healing, analgesic, antipyretic of the isolated & standardized Phyto constituents.

Biotechnological Approaches for the conservation and large scale propagation of Medicinal Plants

The rising demand of plant based drugs is creating a heavy pressure on some high valued medicinal plants. Increasing human activities and rapidly eroding natural ecosystem are threatening their very existence causing a number of species to be either threatened or included in endangered category. Most of the medicinal plants do not produce seeds or their seeds are too small and don't germinate in soil. Thus, mass propagation of disease-free planting material is naturally difficult. Moreover, sexually propagated plants demonstrate a high degree of heterozygosity since their seed progenies are not true to type unless they have been derived from inbred lines.

Likewise majority of the medicinal plants are not amenable to conventional vegetative propagation methods as they have often proved cumbersome and are more liable to be infected with systemic infections which deteriorate their quality and genetic vigor, thus limiting the multiplication of desired cultivars. Due to the shortage of high quality planting material, cultivation and domestication of medicinal plants is uncommon. It is therefore, imperative to adopt alternative methods of propagation having high multiplication rates to produce large number of plants of improved quality and shortened rotation. In this regard, *in vitro* propagation or micropropagation holds the significant promise for true to type, rapid and mass production of selected elite varieties and also to conserve endangered and threatened species.

Expected Benefits

FARMERS

- Authentic seeds/planting material of improved high yielding varieties for cultivation and sale
- Employment opportunities amongst the rural youth, and creating trained and skilled manpower leading to an estimated annual income enhancement of small and marginal farmers in the range of Rs 25,000 to 50,000 per hectare
- Under-utilized and wastelands to be brought under cultivation
- Improved livelihood

INDUSTRY

- Ensuring indigenous availability of raw material
- Quality seeds/planting material
- Superior quality herbs and essential oil
- Promoting unemployed youth and women to become MSME entrepreneur

SOCIETY

- Affordable herbal and aroma products for personal care and health
- Job opportunities

OVERALL IMPACT

- Enhancement of Indian share in global herbal and aroma trade
- Quality-driven cultivation and processing
- Organized marketing for aromatic crops and their essential oils.

Proposed Budget

Budget

Project Component	Activities	Requirements (Rs in lakhs)	Budget for 5 years
Conservation	<ul style="list-style-type: none"> • Collection • Micro-propagation • Replanting in natural habitats 	Tours- 10 lakhs Tissue culture lab- 35 lakhs Manpower- 15 lakhs	60 lakhs
R&D including Equipments viz., UV, FT-IR, HPLC, HP-TLC and MS.	<ul style="list-style-type: none"> • Development of varieties • Development of agrotechnologies • Quality control • Product development 	Infrastructure and Equipment 1.0 Cr. Tours 10 lakhs Manpower- 40 lakhs	1.5 Cr.
Training to farmers and budding entrepreneurs	Training and demonstration	Infrastructure and consumables- 20 lakhs Manpower-25 lakhs(hiring of expert manpower) Tours – 5 lakhs	50 lakhs
Value addition	Product development	Infrastructure and consumables- 35 lakhs Manpower-15 lakhs	50 lakhs
Planting material production	Procuring high yielding varieties and their multiplication	Infrastructure and land cost- 20 lakhs Manpower-30 lakhs	50 lakhs
SALARY OF SCIENTISTS/workers(Upto 5 years)			
JRF(2)		30 Lakhs	30 Lakhs
SRF(2)		35Lakhs	35Lakhs
RA(1)		20Lakhs	20Lakhs
Gardener(2)	For gardening work	15 Lakhs	15 Lakhs
Clerk/Office assistant(2)		25 Lakhs	25 Lakhs
Data Recorder/Keeper(1)		10 Lakhs	10 Lakhs
		Total	4.95 Cr.

THE WAY FORWARD & EXPECTED OUTCOMES

1. Up gradation of Ayush – Amity Herbal & Medicinal Plants Distribution Centre at AUH:
The herbal garden which was established in 2010 has been upgraded with collection of seven species of important medicinal herbs and plantation of 8,099 new, at present the plant number reached to 12,217 with 84 species in collection.
2. Opportunity for propagation and clonal multiplication of medicinal herbs will be followed at centre for distribution in regional farming community.
3. Development of a new platform at AUH for training and mentoring the farmers and rural youth towards the cultivation of medicinal plants as entrepreneur venture.
4. Strengthening the local network with mass multiplication and ready availability of medicinal plants to promote herbal farming in the region.
5. Support and promote the medicinal plant R&D by taking various research projects from the national and international agencies with funding from AYUSH, ICMR and ICAR.
6. Benefit the AUH by its researchers and students working on different aspects of pharmaceutical R&D with focus on developing the region as hub of indigenous system of medicine.
7. The centre will raise the IPR portfolio of AUH by commercialisation of processes and products made at field laboratory of medicinal plants.
8. The centre will push the Amity research and innovation drive towards more focus on Indian system of medicines and alternative medicines by Amity Institute of Indian System of Medicine at AUH.

COVERAGE IN ELECTRONIC, SOCIAL AND PRINT MEDIA









Herbal park opens in Gurugram, to give farmers tips on medicinal plants

Rohit E David | TNN | Jun 6, 2018, 03:07 IST

🖨️ A- A+

PUSH FOR ALTERNATIVE MEDICINES

AMITY HERBAL GARDEN
Area: 5 acres
No of species: 121
No of plants: 10,000



ALOE VERA: Used in traditional treatment for skin ailments

BACOPA MONNIERI: Used in traditional Ayurvedic treatment for epilepsy and asthma, ulcers, tumors, ascites, enlarged spleen, inflammations, leprosy, anemia and gastroenteritis

CYMBOPOGON CITRATUS: Its leaves are used in traditional medicine, herbal supplements and teas

ECLIPTA PROSTRATA: The dried whole plant is used in traditional treatment for skin infection and toothache

RAUVOLFIA SERPENTINA: Used as antidote to stings and bites of insects and poisonous reptiles in different parts of India and Nepal

GURUGRAM: A garden of herbal medicinal plants, spread over 5 acres, has been set up at Amity University. The garden to be maintained by the university authorities is open to the public now.

Dr W Selvamurthy, president of the Amity Science, Technology and Innovation Foundation, said, “The project was started for production of medicinal

plants, seedlings, plantlets and its distribution to primary schools, colleges, institutions or universities.”

The centre for medicinal plants and traditional knowledge was established in Amity University in 2010 and the herbal garden has been developed over the years by the incorporation of at least 121 plant species, including Aloe vera, Cymbopogon citratus (lemon grass), Rauvolfia serpentina (Indian snakeroot) and Bacopa monnieri (water hyssop) and Eclipta prostrata (false daisy). At present, the garden has more than 10,000 herbal and medicinal plants.

Meanwhile, the ministry of AYUSH has decided to collaborate with Amity University and enrol farmers to visit the herbal garden for training purposes. They will be encouraged to produce herbal plants and local medicines in their own farms to incentivise alternative treatments such as Ayurveda, homeopathy and siddha.

Lauding Amity for its work and talking about the collaboration, Shripad Yesso Naik, Union minister of state in the AYUSH ministry, said, “It is our responsibility to promote this (alternative medicines) across the globe.”

According to the officials of National Medicinal Plants Board, there are at least 6,000 flowering plants which have medicinal use in folk and alternative forms of medicine.

A study by the board revealed that at least 178 species are commercially used for alternative treatments in the country and each of these are required to be produced in excess of 100 tonnes per year.

The domestic trade of the AYUSH industry comes up to nearly Rs 80 billion and exports come up to nearly Rs 10 billion. However, farmers are not able to meet the requirements of the industry. “We will try to encourage local farmers who visit the herbal garden to cultivate these plants,” said Dr PB Sharma, vice-chancellor of Amity University, Haryana.

Students enrolled in the bio-technology programmes in the university conduct different research activities in the garden and add to the overall knowledge base. Shrayanee Das, a PhD scholar, said, “The garden helps students to work in the area of herbal plants and local medicines procured from them.” Bhawna Rao, a fourth semester student, BSc Biotech, said, “With the inauguration of this garden, which also acts as a medicinal plant distribution centre, students will learn a lot about herbs, its quality and efficiency.”

Times of India, Online, Date – 6/5/2018



एमिटी विवि परिसर में हर्बल व मेडिसिनल सेंटर शुरू

परंपरागत देशी चिकित्सा पद्धति को बढ़ावा देने की पहल

जागरण संवाददाता, नया गुरुग्राम: विश्व पर्यावरण दिवस के अवसर पर केंद्रीय आयुष राज्य मंत्री श्रीपद नाइक ने एमिटी विश्वविद्यालय परिसर में 'आयुष-एमिटी हर्बल एंड मेडिसिनल प्लांट डिस्ट्रीब्यूशन सेंटर' का उद्घाटन किया। परंपरागत देशी चिकित्सा पद्धति को बढ़ावे देने व विद्यार्थियों को औषधीय पौधों के बारे में जानकारी देने के उद्देश्य से बनाए गए प्लांट का उद्घाटन करने पहुंचे केंद्रीय मंत्री ने कहा कि पर्यावरण के असंतुलन से धरती पर जीवन के अस्तित्व पर खतरा मंडरा रहा है। जिसका नुकसान मानव के साथ-साथ ही वन्य जीव व अन्य जीव जंतुओं को उठाना पड़ रहा है। खासकर वनों में रहने वाले शाकाहारी जीवों को भोजन नहीं मिल पाने के कारण अनेक प्रजातियां विलुप्त होने के कगार पर पहुंच रही हैं, जिससे पारिस्थितिकीय असंतुलन पैदा हो रहा है। इस असंतुलन का परिणाम ही है मानव व वन्यजीवन के बीच लगातार संघर्ष बढ़ रहा है।

उन्होंने कहा कि पर्यावरण संरक्षण के लिए किए जाने वाले प्रयास व्यक्ति को नैतिक जिम्मेदारी के तौर पर लेना चाहिए। सेंटर के उद्घाटन के अवसर पर केंद्रीय मंत्री के साथ विश्वविद्यालय



एमिटी विश्वविद्यालय परिसर में आयुष हर्बल एंड मेडिसिनल प्लांट डिस्ट्रीब्यूशन सेंटर का उद्घाटन करते केंद्रीय आयुष राज्य मंत्री श्रीपद नाइक। साथ में हैं मेयर मधु आजाद व अन्य • जागरण

के फाउंडर प्रेसिडेंट डॉ. अशोक कुमार चौहान, वाइस चांसलर डॉ. पीबी शर्मा व गुरुग्राम की मेयर मधु आजाद समेत कई लोग मौजूद रहे।

दिल्ली-एनसीआर के विद्यार्थी व किसान कर पाएंगे शोध: विश्वविद्यालय परिसर में बने 'आयुष-एमिटी हर्बल एंड मेडिसिनल प्लांट डिस्ट्रीब्यूशन सेंटर' में आकर दिल्ली-एनसीआर के विभिन्न विश्वविद्यालय के बच्चे हर्बल व मेडिसिनल पौधों पर अपना शोध पूरा कर पाएंगे। इसके अलावा विश्वविद्यालय

विभिन्न कार्यक्रमों का आयोजन भी करवाएगी जिसमें आस-पास के गांव के किसानों को आमंत्रित कर स्टेविया, आर्टीमीशिया, लेमन ग्रास, शतावर, तुलसी व एलोवेरा जैसे औषधीय पौधों की खेती के बारे में जानकारी दी जाएगी। केंद्रीय आयुष राज्य मंत्री नाइक ने कहा कि औषधीय पौधे से लोगों का जीवन बचाया जा सकता है। यहां के हर्बल गार्डन में कई ऐसे औषधीय पौधे और फूल हैं जिनसे प्राकृतिक उपचार किया जा सकता है।

My vision is to establish a 50-bedded Ayush hospital in each distt: Naik

Union Minister Shripad Naik said today his vision was to establish atleast one 50-bed Ayush hospital in every district of the country to provide Ayurveda and homeopathy based treatment to the needy.

PTI | June 06, 2018, 05:34 IST

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Gurgaon, June 5 () Union Minister [Shripad Naik](#) said today his vision was to establish atleast one 50-bed [Ayush](#) hospital in every district of the country to provide Ayurveda and homeopathy based treatment to the needy.

Naik, who heads the Ministry of Ayurveda, Yoga & Naturopathy, Unani, Siddha and Homoeopathy (AYUSH),

visited the Amity University in Manesar here to inaugurate an on-campus herbal garden and medicinal plants distribution centre set up.

The minister said with 'AYUSH' people were connecting to their roots and improving their lifestyle through [natural remedies](#).

The minister also said that his vision was to ensure there was atleast one 50-bed Ayush hospital in every district of the country.

Holistic development was the motive of the government at the Centre, he said.

Naik said that in the last three years, AYUSH had been well introduced throughout the world. It is our responsibility to promote this across the globe, he said.

Talking about the initiatives of his ministry, Naik said as part of a scheme, an AYUSH doctor is stationed at every primary hospital and the medicines are budgeted from the ministry itself. CORR. ADS ADS

AYUSH collaborates with Amity University Haryana to set up “Herbal Garden” on World Environment Day

City Air News Author(s):



Gurgaon, June 5, 2018: On the occasion of World Environment Day, Ministry of AYUSH in collaboration with Amity University Haryana have set up a “AYUSH – Amity Herbal Garden and Medicinal Plants Distribution Centre” which was inaugurated by Shri Shripad Naik, Union Minister of State, Ministry of Ayurveda, Yoga and Naturopathy, Unani, Siddha and Homoeopathy at University Campus, Haryana. “Amity Institute Of Indian System Of Medicine” was also launched today in the presence of Dr Ashok K Chauhan, Founder President Amity Education Group, Dr Aseem Chauhan Chancellor Amity University, Haryana, Dr P B Sharma, Vice Chancellor, Amity University, Haryana and other senior officials and dignitaries. The center will produce herbal plants and local medicines with a view to create public awareness and boost the scientific efforts to make India, a world leader in Ayurvedic, Unani, Naturopathy, Homeopathic and Siddha health care. This project is earmarked for the benefit of local farmers and to provide vast opportunities for the youth of its vicinity for employment and agriculture growth. Inaugurating the herbal garden, Union Minister of State, Shri Shripad Naik said that holistic development is the motive of our Government and the ministry is working on the lines of the vision of our Hon'ble Prime Minister of India who promotes the message of 'Sabka Sath and Sabka Vikas'. He shared that in the last three years, AYUSH has been well introduced throughout the world, since this system of medicines is in the purest form, and it is our responsibility to promote this across the globe. Briefing about the initiatives by AYUSH Ministry, Shri Naik apprised that various health schemes are initiated in every state, as part of the scheme, an AYUSH doctor will be stationed at every primary health centre while the treatment and the medicines will be budgeted from the ministry itself. He also shared his vision to establish an AYUSH hospital comprising of 50 beds in every district providing treatments of Ayurveda, homeopathy etc. Shri Naik lauded the research and innovations conducted by the brilliant scientists of Amity and also extending the benefits to farmers. Due to this, the ministry decided to collaborate with Amity. He further remarked that the research conducted through this centre will aid the farmers and will help in increasing their income. He stressed that with AYUSH, people are now connecting back to their roots and improving the lifestyle through natural remedies.

Addressing the gathering, Dr Ashok K Chauhan, Founder President, Amity Group stressed that Amity has complete belief in natural remedies including Ayurveda, Homeopathy, Yoga etc. He added, "It is our mission to promote the benefits of herbal and natural medicines across the world in collaboration with Ministry of AYUSH". Commenting on natural remedies making foray into the world, Dr. Chauhan averred that the modern world is now looking towards India and there has been significant rise in the demand of traditional medicines and treatments. He adds, "many diseases can be cured through natural treatment like knee pain can be treated through Yoga, stress can be relieved through meditation."

"India has emerged as a world leader in local and herbal medicines in the last few years. Scientific research and development will help India gain its importance globally and would be known for its best healthcare based on Ayurveda, herbal and local medicines. Amity promotes Green India Clean India mission of our Honourable Prime Minister, Narendra Modi and very soon Amity will start working on 'No plastic Mission' in 2018." said Vice-Chancellor of Amity University Haryana Dr PB Sharma.

Throwing light on the project Dr W Selvamurthy, President - Amity Science, Technology and Innovation Foundation and Director General for Amity Directorate of Science and Innovation said "Herbal Garden is developed for production of medicinal plants, seedlings, plantlets, for distribution to primary schools, colleges, institution/ university. The garden has been created with the support of National Medicinal Plant Board (NMPB) AYUSH Ministry. The project would not only make the farmers near Haryana, Delhi/NCR aware but also increase the employment rate especially among the youth. The idea of choosing Amity as the project venue is because of the work it is doing in the field of herbal plants and organic farming." Dr Naval Kishore Verma, Chief Advisor AYUSH apprised that because of its high end R&D, drug discovery and patenting of herbal plants and medicines, Amity University has been chosen by AYUSH, a leading partner in promotion of cultivation, mentoring and training of local farmers alongside, informs.

Ms Shomita Das, CEO Medicinal Plant Board, Dr Naval Kumar, Smt Madhu Azad, Mayor Gurugram, Maj Gen B S Suhag (Retd), Prof Padmakali Banerjee and hundreds of senior officials of Amity and Ministry were also present in the occasion.

Date:

Tuesday, June 5, 2018

आयुष मंत्रालय के मंत्री श्रीपद येसो नायक बोले

हर जिले में 50 बेड का आयुष अस्पताल हो

■ केन्द्रीय मंत्री ने किया मेडिसिनल प्लांट डिस्ट्रीब्यूशन सेंटर का उद्घाटन

गुड़गांव, 5 जून (ब्यूरो): विश्व पर्यावरण दिवस के अवसर पर मंगलवार को जिला के मानेसर क्षेत्र स्थित एक निजी युनिवर्सिटी में आयुष-एमिटी हर्बल प्लांट एंड मेडिसिनल प्लांट डिस्ट्रीब्यूशन सेंटर का उद्घाटन आयुष मंत्रालय के केन्द्रीय मंत्री श्रीपद येसो नायक द्वारा किया गया।

इस अवसर पर एमिटी समूह के फाउंडर प्रेसिडेंट डा.अशोक कुमार चौहान, वाइस चांसलर प्रोफेसर डा.पीबी शर्मा सहित अन्य गणमान्य



डिस्ट्रीब्यूशन सेंटर का उद्घाटन का उद्घाटन करते केन्द्रीय मंत्री।

लोग मौजूद रहे। केन्द्रीय मंत्री श्रीपद येसो नायक ने कहा कि हमारी सरकार का नारा विकास है और प्रधानमंत्री नरेन्द्र मोदी का संदेश है- सबका साथ सबका विकास। पिछले तीन साल में आयुष इन त

ीन सालों में अपनी स्थापना दुनिया में की है और हमारी दवाईयां सबसे शुद्ध है, जिसका प्रचार दुनिया में करना हमारी सरकार की जिम्मेदारी है। आयुष की विभिन्न योजनाओं के बारे में बताते हुए उन्होंने बताया कि

आयुष के तहत कई योजनाएं स्थापित हुईं और उनमें से एक हर प्राईमरी हेल्थ सेंटर में आयुष का एक डॉक्टर बैठेगा। मिनिस्ट्री का उद्देश्य है कि हर जिला में 50 बेड का आयुष अस्पताल हो।

एमिटी की रिसर्च और इनोवेशन की बढ़ाई करते हुए कहा कि इसी अनुसंधान के तहत एमिटी के सहयोग से इस हर्बल गार्डन की शुरूआत की है। इस केन्द्र के तहत होने वाली अनुसंधान किसानों के लिए मददगार रहेगा और रोजगार के अवसर भी पैदा करेगा। इस मौके पर गुड़गांव की मेयर मधुआजाद, डा.नवलकुमार (चीफ अडवाइसर आयुष), डा.सोमिता बिसवास, डा.सिल्वामूर्ति, मेजर जनरल बीएस सुहाग (रिटायर्ड) आदि मौजूद रहे।



My vision is to establish a 50-bedded Ayush hospital in each district: Shripad Naik



Published 1 day ago on June 6, 2018

By PTI 



Gurgaon: Union Minister Shripad Naik said on Tuesday said his vision was to establish at least one 50-bed Ayush hospital in every district of the country to provide Ayurveda and homeopathy based treatment to the needy.

Naik, who heads the Ministry of Ayurveda, Yoga & Naturopathy, Unani, Siddha and Homoeopathy (AYUSH), visited the Amity University in Manesar here to inaugurate an on-campus herbal garden and medicinal plants distribution centre set up.

The minister said with 'AYUSH' people were connecting to their roots and improving their lifestyle through natural remedies.

The minister also said that his vision was to ensure there was at least one 50-bed Ayush hospital in every district of the country.

Holistic development was the motive of the government at the Centre, he said.

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Talking about the initiatives of his ministry, Naik said as part of a scheme, an AYUSH doctor is stationed at every primary hospital and the medicines are budgeted from the ministry itself.

HN News Network, Date – 5/6/2018