

# ANNUAL REPORT

## CHAI (2013-14)



**CONFEDERATION OF HORTICULTURE ASSOCIATIONS OF INDIA**

**(An ISO 9001:2008 Certified organisation)**

**249, Vijayee Veer Awas, Kargil Apartments,**

**Sector 18A, Dwarka, New Delhi - 110078.**

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**[www.confedhorti.org](http://www.confedhorti.org)**



# Annual Report 2013-14



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## **Confederation of Horticulture Associations of India (CHAI)**

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## From the Chairman's desk



**Confederation of Horticulture Associations of India (CHAI)**, a consortium of experts, synergizes scientist, associations, corporate sector, institutions, society/associations, farmers and other stakeholder to work together in mission mode with set goals and objective, the confederation is commitment for the furtherance of horticulture/agriculture research, education and development and is striving hard to achieve the goal of technology-led development to address global and national concerns. The CHAI is publishing Journal, newsletters, books and report and have expertise to provide technical solutions, to take up planning and implementation of the projects. To recognize the contribution of various stake holders, CHAI has instituted **Life Time Achievement Award**-recognises the leadership role in horticulture, **Dr. R.S Paroda Award**- recognizes the excellence in science and technology of horticulture and **Dr. B.H. Jain Award**- recognised the excellence in dissemination of knowledge. **Honorary fellowship** is conferred to the scientist and science manager for his/her outstanding contribution to horticulture/agriculture. During the year to recognise the farmers for his/her contribution, in adoptions, disseminations and innovation of technology, **Ramnanadan Babu Award** has been instituted for excellence in farming. **JISL fellowship** for training abroad and, **Best Dissertation Award** to recognise the researcher/scholar, have also been instituted in the year. To recognise the scientist, Institutions, corporate sector, non profiting organisation (NPO) and associations, fellowships namely corporate, NPO, Institutional a fellowship of CHAI are conferred for their/ his/her commitment, to the furtherance of horticulture/ agriculture.

The year, 2013-2014, has been eventful, where starting with 160 Members at the end of last year; the membership has become 210, which include Corporates, NPOs, Associations, Institutions / organizations members and individual members. The CHAI organized the First Annual General Council (AGCM) meeting on 29<sup>th</sup> May 2013, wherein fellowship was conferred; **Life Time Achievement Award** was conferred on Dr. Prem Nath. **Dr. R.S. Paroda Award** was conferred on Dr. Vihal Nath and Dr. Gorakh Singh, respectively for year 2012 and 2013. In **Honorary fellowship** was conferred on Dr. Dilip Kumar and Dr. Shyam Singh, in the inaugural function. **Dr. B.H. Jain Award** was conferred on Dr. T. Jankiram . The International Journal of Innovative Horticulture (IJIH) launched in 2012, and is contributed. The books edited by chairman namely Advances in Horticulture Biotechnology- Vol-6 (Nanotechnology in Agriculture) b] Advances in Horticulture Biotechnology-Vol-7 (Diagnostics in Horticultural Crops) c] The Palms, were released in inaugural and valedictory function.

I am happy to state that, the CHAI Year Book-2014, with updated information on members has also been brought out. The CHAI continued to participate in exhibitions and, support the conferences. During the year, the CHAI was major a partner in 'International Conference on Water Quality and Management for climate Resilient Agriculture, organized at Jain Hill, JISL, Jalgaon. The chairman delivered a plenary lecturer after the inaugural function on **Water quality and management for resilient agriculture**. CHAI was also a partner in brainstorming session on **Bio-Nano-information technology for western Himalayan states**, organized at Pantnagar, 12-13, July 2013 and also facilitated the organization of **National workshop on urban and peri-urban horticulture**, at Navsari on 19<sup>th</sup> December, 2013 and a National conference on value chain management in mango organized at Kolar, Karnataka, on 22<sup>th</sup> March 2014. A **National Knowledge Sharing**

**Workshop on tropical fruits**, banana, mango and pomegranate, was organized by CHAI, on 1<sup>st</sup> and 2<sup>nd</sup> march 2013, at Coimbatore, jointly with ASSOCHAM, in collaboration with TNAU, JISL, Jalgaon and AIPUB, Trichy. During the year the CHAI has succeeded in establishing two units, one is Jalgaon, Maharashtra and other at Pusa, Bihar,

Chairman, CHAI delivered key note addresses, both in India and abroad, and many meetings were held to create awareness about CHAI and to identify the critical areas which may be taken up. CHAI has also been offered with international consultancy for evaluation of Projects, and is in process, to identify the team with various work profile. A best paper award to encourage, quality papers has also been institutionalized. One of the initiatives has been to facilitate the farmers in adoption of new technology through the visit of experts to the farmers' fields. Chairman himself visited large number of grower field and also had advisory role to corporate sectors by facilitating them to get the experts from among the CHAI fellow. The chairman has also taken initiative to create awareness about the food and nutritional security among the college students by delivering plenary and key notes lectures in the colleges. During the year the CHAI signed a MOU with PHD Chamber of Commerce and Industry, New Delhi to have knowledge and synergy partnership.

I, as a chairman of CHAI, feel immensely proud with progress of organization, which would not have been possible without your active support and cooperation. I acknowledge your support and envision the CHAI to be vibrant, and responsive organization, to serve the mandate of CHAI. I am presenting the second annual report, and look forward to get your kind cooperation for furtherance in Horticulture/Agriculture

**H.P. SINGH**

The Founder and Chairman, CHAI

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About the  
**Confederation of Horticulture Associations of India (CHAI)**

In the scenario of increasing hunger, malnutrition and challenges of climate change, technology-led horticulture/agriculture has assumed greatest significance for food, nutrition, healthcare and environmental services and above all, the economic development. In this context, a forum, which brings scientists, associations, corporate sectors, institutes and organisations, farmers and various stakeholders together, to work in mission mode with set goals & objectives, are essential for addressing the challenges. Accordingly, Confederation of Horticulture Associations of India (CHAI) was established in the year, 2010. The CHAI is committed to the furtherance of agriculture/horticulture research, education and development through networking organisations and individuals to work together, to achieve the goal of technology led development and act as solution provider.

**Mission of CHAI**

CHAI is committed for the development of agriculture/horticulture by providing solutions to the problems by utilizing the services of talented experts in the field of agriculture/ horticulture, and disseminate the knowledge.

**Goal of CHAI**

The goal of CHAI is to play a catalytic role, in addressing the concern of food and nutritional security, through interventions of technology-led agriculture / horticulture development. The vision is to bring synergy among different societies/associations, experts and entrepreneurs to encourage effective participation of all stakeholders for accelerating the economic growth through technological interventions and human resource development.

**Aims and Objectives of CHAI**

- Furtherance of agriculture / horticulture through improved cooperation by integrating scientific study, education and knowledge exchange of biological, ecological, environmental, sociological and economic issues that affect agriculture / horticulture.
- To catalyse the efforts of development by creating associations for interaction among all agriculture / horticulture societies/ associations, growers, entrepreneurs, policy planners and activists through consultations, organisation of seminars, conferences, meetings, national dialogue and trainings.
- To establish, promote, run, maintain and support the community for the promotion in advancement of agriculture/horticulture, and to serve as an apex organisation concerned with promotion of agriculture / horticulture, having linkages with various commodity/ input, organisations, institutes and Governmental and Non-Governmental organizations.
- To establish education and training institutions for human resource development and skills upgradation for meeting the needs of empowered human resource.
- To recognise the services of people in horticulture through incentives, awards and encourage the scientists for their participation in national and international events.
- To establish education and research institutions and provide expert guidance to



organisations as well as individual to capitalise on the strength and build human resource.

- To take up all the activities, deemed to be fit, in achieving goals and mission of the Confederation for furtherance of horticulture/agriculture for economic developments.

### **Initiatives of CHAI**

The confederation has successfully organised and supported national and international conferences, workshops and national consultation and, serviced in education and is providing solutions to the problems. Awards and Fellowships are instituted to recognize the contribution of scientists and other stakeholders in the research and development in the country and also abroad. The Confederation has instituted various awards, which includes “Life time Achievement Award” for leadership, Honorary Fellowship for outstanding contribution, “Dr. R. S. Paroda Award for Excellence” in research and academics. Dr. B.H. Jain Award for excellence in transfer and diffusion of technology and Ram Nandan Babu Award for excellence in farming. CHAI Fellowship is conferred to members for their commitment in furtherance of agriculture / horticulture. JISL fellowship is provided for training abroad to meritorious members. Considering the needs for dissemination of science based knowledge among scientists for the furtherance of agriculture/ horticulture science, an International Journal of Innovative Horticulture (IJIH) is also published besides newsletter and books, which has over whelming response. To encourage the students, the CHAI has instituted best dissertation award for the students who have completed masters and best paper award for scientific article published in IJIH, are also awarded.

### **Strength of CHAI**

- The CHAI has wide spectrum of experts, who are enrolled as fellow to support the technology-led development and provide strategic expert advice.
- The Chairman, having held the position of DDG, ICAR, Vice-Chancellor, RAU, Pusa, Horticulture Commissioner, Govt. of India and many other positions, known nationally and internationally in the field of research, education and development has expertise in horticulture, water management, nutrient management, quality seed and planting material production and above all coordination, planning and execution of project and education,
- More than 200 fellows of CHAI have expertise in various aspects of agriculture/horticulture.
- Besides, the fellows, more than 100 experts in different fields from India and abroad are enrolled with CHAI.
- CHAI has offices in Delhi, Patna, Bangaluru and also in Dubai to attend to all the types of work for business solution options.
- The CHAI is also a non-profit company, and has established network with institutions, academy, corporate, business house, NGOs and also International organizations.

- The network of CHAI, expertise of skilled fellow and standing experts makes the confederation to offer knowledge and its management strategies for modernizing agriculture/horticulture and serve the nation.

## **ACTIVITIES OF CHAI**

### **NATIONAL AND INTERNATIONAL CONFERENCES SUPPORTED AS SYNERGY AND KNOWLEDGE PARTNER**

In the preceding years, the Confederation has catalysed the development of horticulture through partnering in activities of conference organised by various organisations on emerging issues, which has helped in developing strategies for research and development. The conferences supported in past are national conference on Production Quality Seeds and Planting Material- Health Management in Horticultural Crops, 11-14, March, 2010 New Delhi; national conference on Horticultural Bio-diversity for Livelihood, Economic Development and Health Care, 28-31, May, 2010, Bangaluru; international conference on Coconut Biodiversity for Prosperity, 25-28, October, 2010, Kasargod, Kerala; Global Conference on Meeting the Challenges in Banana and Plantain for Emerging Biotic and Abiotic Stresses, 10-13, December, 2010, Trichy, Tamil Nadu; national symposium on Molecular Approaches for Management of Fungal Diseases of Crop Plants 15-20, December, 2010, Bangaluru; national conference on Horti Business-Linking Farmers with Market, 28-31 May, 2011, Dehradun, Uttarakhand; Global Conference on Augmenting Production and Utilization of Mango: Biotic and Abiotic Stresses, 21-24, June, 2011 Lucknow; Global Conference on Horticulture for Food, Nutrition and Livelihood options 28-31, May, 2012, Bhubaneswar; national conference on Sub- Tropical Fruits, 9-12, Jan, 2013, Navsari, Gujarat; brain storming session on Nano-Bio-Information Technology for the Development of North Western Himalayan States, 12-13, July, 2013, Pantnagar, Uttarakhand; national workshop on Urban and Peri-Urban Horticulture, 21<sup>st</sup> December, 2013, Navsari, Gujarat; national conference on Value Chain Management in Mango, 20-22, March, 2014 Kolar, Karnataka Global Conference on Technological Challenges and Human-resource for Climate Smart Horticulture- Issues and Strategies, 20-31, May, 2014, GAU, Navsari, Gujarat.

### **CONFERENCES/ WORKSHOPS ORGANIZED**

The CHAI has been organizing workshop on the topical issues. First workshop organized by The CHAI was on **Urban and Peri- Urban Horticulture in Bangaluru**, on 2nd March, 2013 with the theme – *Greening the cities, Utilizing the waste, Meeting the needs and Servicing the environment, was organized by CHAI at Bangaluru on 2<sup>nd</sup> march 2013.* The workshop deliberated issues in four technical sessions and concluded with adaptation of recommendations and Bangaluru Declaration for catalyzing the Urban and Peri-Urban Horticulture. In the year, 2014 on 1-2 March the CHAI organized a knowledge sharing workshop on tropical units with a Value Chain management for enhancing Farm profitability. The workshop was attended by 200 participants, largely, the formers, who were infused with new knowledge, especially on banana, mango and pomegranate. The workshop became a unique approach for addressing the issues in tropical fruits.

## **MEETINGS**

First Executive Council and General Council meetings were held on 29<sup>th</sup> and 30<sup>th</sup> May, respectively, and distinguished members were honoured with CHAI Fellowship for their commitment in furtherance of horticulture, and various awards were conferred. Second executive council and general council meeting were held on 29<sup>th</sup> May, 2013 at Jalgaon, wherein various issues were discussed. Besides, report of secretary and treasures and the distinguished members were conferred with the fellowship of CHAI. All the members present appreciated the efforts of the Chairman and, ensured for the support in achieving the objectives of the CHAI. In the meeting Dr. A.R. Pathak was invitee and the meeting was attended by over 60 members. The council authorized the chairman to take all the action, as he deems it fit, in the best interest of CHAI.

## **PARTICIPATION IN EXHIBITIONS**

The Confederation of Horticulture Associations of India continue to participate in Horti Expo-2010, which exhibits the activities of CHAI to draw the attention in furtherance of horticulture.

## **INSTITUTION OF AWARDS AND FELLOWSHIPS**

To recognize the contribution of scientists and other stakeholders in the research and development of horticulture/agriculture, in the country and also abroad, the Confederation has instituted various awards which includes “Lifetime Achievement Award and Honorary fellowships of CHAI, Dr. R.S. Paroda Award for Excellence, Dr. B H Jain Award for Excellence. The distinguished members with the commitment to the furtherance of Horticulture are conferred with Fellowship of CHAI. During the year, with the approval of competent authority, JISL Fellowship, Ram Nandan Babu Award for excellence in farming, exclusively for farmers, Dissertation Awards and Best Paper award for scientific article in IJH were announced.

## **PUBLICATIONS**

### **1. International Journal of Innovative Horticulture**

Considering the needs for dissemination of science based knowledge among scientists for the furtherance of horticulture science and, request of members from across the country and abroad, it was felt essential to bring out a journal. Accordingly, an International Journal of Innovative Horticulture (IJH) was started. Peer reviewers are of national and international repute. The first issue of the journal was launched by His Excellency, Governor of Karnataka at Bangalore. The Journal published by CHAI, has an international look and shall consider original papers on multi-disciplinary aspects. The journal is published bi-annually. The types of papers include Research, Reviews, Case studies, new cultivars and new technologies, Commentaries and opinions, Policy issues, Abstract of PhD thesis, Book Review, Features, Colloquia and Workshops. The two volumes have been published and efforts are made to complete volume 3 also to submit it for rating of NAAS.

### **Books**

CHAI also published two books during the year.

## **MEMBERSHIP OF CHAI**

There shall be five categories members *i.e.* Institutional, Corporate, Association, Non-profit Organization (NPO) and Individual Members. Membership of the Confederation is open to individuals/ firms, organizations and societies/associations subscribing to the objectives of the CHAI. The CHAI being a professional academic association envisions promotion of horticulture/agriculture in the country.

- i) Associations, corporates, entrepreneurs and individuals who are committed for the furtherance of horticulture shall request for the membership. Right to admission rests with Board of Directors and the Founder and Chairman.
- ii) Nominations shall be accepted for consideration, which are endorsed by two members of CHAI or Institutional Head certifying their candidature.
- iii) Member admitted to the CHAI shall be given a certificate of membership, with a plaque of honour in the Annual Council Meeting as fellowship of CHAI.
- iv) Every member can attend the Council's meeting, whenever called, on his own cost or at the cost of CHAI, depending upon the terms and conditions, as approved by the Founder and Chairman.
- v) All the members/fellows are entitled to receive the International Journal of Innovative Horticulture for 15 years, free of cost.
- vi) All members/fellows shall be eligible to request for award including Dr. R.S. Paroda, Dr.B.H. Jain award, Ram Nandan Babu Award and any other awards instituted by CHAI.
- vii) Members/Fellows shall be eligible to seek the financial assistance, if his or her paper is accepted in International Conference/ Symposia, which shall be considered on merit by the committee/ The Founder and Chairman. Only one or two fellowships for visit abroad will be available.

## Executive Summary

### **National and international conferences supported as synergy and Knowledge partner:**

In the preceding years, the Confederation has catalysed the development of horticulture through partnering in activities of conference organised by various organisations on emerging issues, which has helped in developing strategies for research and development. The Conferences supported in past are: National Conference on Production of Quality Seeds and Planting Material- Health Management in Horticultural Crops, 11-14, March, 2010 New Delhi; National Conference on Horticultural Bio-diversity for Livelihood, Economic Development and Health Care, 28-31, May, 2010, Bangalore; International Conference on Coconut Biodiversity for Prosperity, 25-28, October, 2010, Kasargod, Kerala; Global Conference on Meeting the Challenges in Banana and Plantain for Emerging Biotic and Abiotic Stresses, 10-13, December, 2010, Trichy, Tamil Nadu; National Symposium on Molecular Approaches for Management of Fungal Diseases of Crop Plants 15-20, December, 2010, Bangalore; National Conference on Horti Business-Linking Farmers with Market, 28-31 May, 2011, Dehradun, Uttarakhand; Global Conference on Augmenting Production and Utilization of Mango: Biotic and Abiotic stresses, 21-24, June, 2011 Lucknow; Global conference on Horticulture for Food, Nutrition and Livelihood Options 28-31, May, 2012, Bhubaneswar; National conference on Sub- Tropical Fruits, 9-12, Jan, 2013, Navsari, Gujarat. Brain storming session on Nano-Bio-Information Technology for the Development of North Western Himalayan States, 12-13, July, 2013, Pantnagar, Uttarakhand; National workshop on Urban and Peri-Urban Horticulture, 21<sup>st</sup> December, 2013, Navsari, Gujarat; National conference on Value Chain Management in Mango, 20-22, March, 2014 Kolar, Karnataka. The CHAI is a knowledge partner in Global Conference on Technological Challenges and Human-resource for Climate Smart Horticulture- Issues and Strategies, being organised at NAU, Navsari, Gujarat 28-31, May, 2014.

The CHAI has been organizing workshop on the topical issues. First workshop organized by The CHAI was on Urban and Peri- Urban Horticulture in Bangalore, on 2nd March, 2013 with the theme – Greening the cities, Utilizing the waste, Meeting the needs and Servicing the environment. The workshop deliberated issues in four technical sessions and concluded with adaptation of recommendations and Bangalore Declaration for catalyzing the Urban and Peri-Urban Horticulture. In the year, 2014 on 1-2 March the CHAI organized a Knowledge Sharing Workshop on Tropical fruits with a theme of Value Chain management for enhancing farm profitability. The workshop was attended by 200 participants largely the farmers, who were infused with new knowledge especially on banana, mango and pomegranate. The workshop became an unique approach for addressing the issues in tropical fruits.

First Executive Council and General Council meetings were held on 29<sup>th</sup> and 30<sup>th</sup> May, respectively, and distinguished members were honoured with CHAI Fellowship for their commitment in furtherance of horticulture and various awards were conferred. Second Executive Council and General Council meeting was held on 29<sup>th</sup> May, 2013 at Jalgaon, where in various issues were discussed. Besides, report of secretary and treasures the distinguished members were conferred with the fellowship of CHAI. All the members present appreciated the efforts of the chairman and ensured for the support in achieving objectives of CHAI. In the meeting Dr. A.R. Pathak was invitee and the meeting was attended

by over 60 members. The Council was authorized the chairman to take all the action, as he deems it fit in best interest of CHAI. The Confederation of Horticulture Associations of India continue to participate in Horti Expo to create awareness about CHAI.

### **AWARDS CONFERRED BY CHAI IN THE YEAR-2013**

To recognize the contribution of scientists and other stakeholders in the research and development of horticulture/agriculture in the country and also abroad, the Confederation has instituted various awards to recognize the services of individuals, which includes "Lifetime Achievement Award and Honorary fellowships," Dr. R.S. Paroda Award for Excellence", Dr. B H Jain Award for Excellence in knowledge dissemination. The distinguished members with the commitment to the furtherance of Horticulture are conferred with Fellowship of CHAI. During the year, with the approval of competent authority, JISL Fellowship, **Ram Nandan Babu Award** for excellence in farming, exclusively for farmers, dissertation awards and Best Paper Award for scientific article in IJIH were announced. In the year Life Time Achievement Award was given to Dr. Prem Nath, PNASE , Bangalore and Honorary Fellow of CHAI to Dr. Dilip Kumar, Ex- Director, CIFE, Mumbai and Dr. Shyam Singh, Ex- Director, NRCC, Nagpur. Dr. R.S. Paroda Award for Excellence was confer on Dr. Vihal Nath, Director, NRC on Litchi, Dr. Gorakh Singh former Horticulture commissioner and Dr. B.H. Jain Award for excellence was conferred on Dr. T. Jankiram. Corporate Fellow of CHAI were Aurohill Group of Company, Dubai, UAE, Media Today Pvt. Ltd, New Delhi, Florence Flore, Bangalore and Merino Industries Ltd. Hapur, UP. NPO Fellowship was given to ASM Foundation, New Delhi. Navsari Agricultural University, Navsari, Gujarat received Institutional Fellowship. Fellowship of CHAI was given to eligible individuals members. Publication considering the needs for dissemination of science based knowledge among scientists for the furtherance of horticulture science and request of members from across the country and abroad, it was felt essential to bring out a journal. Accordingly, an International Journal of Innovative Horticulture (IJIH) was started. Peer reviewers are of national and international repute. The first issue of the journal was launched by His Excellency, Governor of Karnataka at Bangalore. The Journal published by CHAI, has an international look and shall consider original papers on multi-disciplinary aspects. The journal is published bi-annually. The types of papers include Research, Reviews, Case studies, new cultivars and new technologies, Commentaries and opinions, Policy issues, Abstract of PhD thesis, Book Review, Features, Colloquia and Workshops. The two volumes have been published and efforts are made to complete volume 3 also to submit it for rating of NAAS. The CHAI also published two books during the year.

## REPORT OF (2013-14)

### 1) Organization/ Support for International/ National Seminars/Conferences

The CHAI continued to support many International and National conferences and workshops. During the year, conferences supported and organised are:

#### 1.1 Swadesh Prem Jagriti Sangosthi-2013 and International Conference on Water Quality and Management for climate Resilient Agriculture, organized by ASM



Foundation and JISL at Jain Hill Jalgaon, Maharashtra, from 28-31, May, 2013 was supported by CHAI as knowledge partner. The conference has participation of all the stakeholders, eminent scientists, corporate representatives, farmers and students. There were about 265 registered delegates, besides Guests and invitees. Many eminent personalities Dr. R.S. Paroda, Chairman, Farmers Commission, Haryana and Former Secretary DARE, DG ICAR, Ministry of Agriculture, New Delhi; Dr. Guru Bachan Singh, Chairman, ASRB, New Delhi; Dr. B.H.

Jain, Chairman, Jain Irrigation Systems Ltd., Jalgaon; Dr. Bola Prasad Singh, Hon'ble Member of Parliament, Sh. Haribhau Jawale, Hon'ble Member of Parliament, Raver, Vice Chancellors and Directors graced the occasion and guided the deliberations. The discussion and deliberation were held in 8 technical sessions besides inaugural, valedictory and field visits. Based on the discussion and deliberations, points which emanated as the recommendations are:

- ❖ Recognising that, young student and farmers are the future of the nation, there is a need for inculcation of the spirit of patriotism, through education, secured health, economic upliftment and social values. Rising above self for our community and country is a great purpose of life, and is must, for improving quality of living in rural areas.
- ❖ There is a need for diffusion of technologies with commensuration investment and also the enabling policy environment for the development of horticulture. Therefore, promoting horticulture would be an option to address the challenges of food and nutritional security beside environmental service.
- ❖ Water is scarce resource, its conservation and efficient use is enviable for sustainable agriculture. Rain water has to be harvested and used, recycling of waste water for use in agriculture and managing the quality and increasing efficiency is therefore more essential.
- ❖ Water management assumes paramount importance to reduce the wastage of water to increase the water use efficiency and ensure equitable distribution. In spite of largest irrigation system the water use efficiency in the country has been less than 40 %. If it continues, water crisis would lead to reduced production and productivity,



which would affect the quality of life of the people. This calls for productive use of water, **More Crops per Drop**.

- ❖ To meet the food security, income and nutritional needs of the projected population in 2020, the additional requirement of food grains (including pulses), fruits and vegetables have to come from limited land and declining water resources. This necessitates the use of modern system of irrigation, which irrigates the plant rather than field and results in productive use of water. Micro-irrigation, thus, hold a promise for enhanced water use efficiency.
- ❖ Inappropriate policies leading to indiscriminate use of water, lack of appropriate technologies, poor technology transfer mechanisms and inadequate and defective institutional support systems, have led to serious agro-ecological and sustainability problems in irrigated areas. The water table rise and water logging to the extent of 8.5 M ha is the problem in canal command areas along with secondary Salinization, receding water table at a rate of, as high as, one meter annually along with underground water pollution in many states are the daunting problems in tube well irrigated areas.
- ❖ Water is scarce and valuable input in agriculture, water saving techniques such as micro-irrigation and basic studies on physiological aspects of different crops for efficient management of water for producing more crops per drop of water are urgently required. Micro-irrigation which allows application of water to the root zone of the crops by specially designed equipments saves water, energy, fertilizers and above all increases economic returns of the farmers. The policy, investment and technological refinements have to be given priority to safeguard the interest of the farmers and ensure food and nutritional security.
- ❖ Rain water harvesting techniques both *in-situ* and *ex-situ* may be encouraged for recharging the ground water and providing supplementary water saving irrigations during drought period for enhancing crop productivity under rainfed conditions. Locally available low cost mulching material should be used to reduce evaporation and conserve soil moisture for the growing of crops and economize on water use.
- ❖ At present only 29% of rain water is being utilised. With higher specific and latent heat water conservation in soil profile can be an important tool to mitigate with temperature extremes. All sources of water including rain water, surface water and ground water should be utilized efficiently.
- ❖ About one fourth of the country water resource are brackish and about 84% of water is poor quality. There are problems there for arsenic and heavy metals in ground water. Climate change, heat wave and other extremes of climatic phenomena are likely to dominate the future crop growing. Therefore, immediate attention is needed for improving quality of water for health and sustainable production.
- ❖ Long term studies are required for reliable data on the effect of waste water irrigation on soil, ground water and crop production. The economics of waste water treatment should include benefit from irrigation by nutrient laden waste water as well as reduction in pollution load in water resource system. A sound policy should

be formulated for partitioning of biomedical and biotechnological waste from domestic waste, so that, domestic waste water could be reused with lesser risk.

- ❖ In the last decade declining water availability to agriculture, has been a matter of discussion, and among the various policies and technological packages, water management has received focus for realizing high water productivity. Micro-irrigation led development, armed with knowledge and technologies, with farmer as centre point, should be therefore, viewed as one of the eco-technological approaches to attain sustained and enhanced production and productivity.
- ❖ Agriculture including horticulture has to gain much for meeting the challenge of more production with declining land and water by adoption of efficient techniques towards high water productivity. In order to get vertical expansion efficient water management could prove boon to achieve higher productivity, much needed, to meet the future demands. For achieving this goal, appropriate enabling environment and policy support for the development of this sector is a critical need.
- ❖ There is a need to develop human resources and entrepreneurship at the village level for regular monitoring of the system and offering technical guidance to the farmers, as and when needed. The village youths/ agricultural graduates may be given short crash courses on technical, operational and maintenance aspects, who will act also as local solution agents.
- ❖ The session emphasized that new investment, technological advancement, participatory approaches in context of optimizing water use by adoption of micro-irrigation technology should be given high priority. Accordingly, at least 1 % of the outlay needs to be earmarked for micro-irrigation research.
- ❖ In canal command area, micro- irrigation should be promoted to safeguard the interest of the country as well farmers. This would be an approach for efficient utilization of water. The session also discussed means to encourage the savings of water since water saving is like creation of water resource.
- ❖ Developing reliable irrigation system for a small contiguous area through rain water management should be the goal of water shed management in rainfed area to enhance the drought-proofing capability. Suitable filters should be developed for providing safe recharging of water, both, physically and chemically, to protect precious ground water from contamination. A comprehensive ground water recharge policy should be formulated on national and regional level.
- ❖ The vulnerability of Indian agriculture is bound to be severe if the present trend of water use and management is not changed. Rainfed lands are not only low in productivity and sustainability, but, are more prone to risks, as compared to those in irrigated areas, which are also the location for (proportionally) greater concentrations of poor and hungry persons. This can be obviated, to some extent, by expanding irrigated areas through improving water management and water use patterns.
- ❖ Micro-irrigation, which allows application of water to the root zone of the crops by specially designed equipments saves water, energy, fertilizers and above all increases economic returns to the farmers. The policy, investment and technological

refinements have to be given priority to safeguard the interest of the farmers and ensure food and nutritional security.

- ❖ Presently, the problem facing the country is not the development of water resources, but the management of the developed water resources in a sustainable manner. By adopting efficient water management practices the bulk of India's agricultural lands could be rendered as irrigated.
- ❖ In the last decade declining water availability to agriculture, has been a matter of discussion and among the various policies and technological packages, the water management has received focus for realizing high water productivity. Among various strategies of water management, micro-irrigation proved as success story in many horticulture crops and now in cereals, pulses, sugarcane and cotton.
- ❖ Micro-irrigation which allows application of water to root zone of the crops through specially designed equipment known as emitters, has already been adopted. However, the coverage so far has been minuscule in the face of the fact that almost 69 M ha could be covered through this improved system. Therefore, there is a need for larger coverage to safeguard the interest of the farmers.
- ❖ Micro-irrigation led development, armed with knowledge and technologies, with farmer as centre point, should be viewed as one of the eco-technological approaches to attain sustained and enhanced production and productivity. The technology is bound to maximize the synergistic interactions of improved cultivars, water and fertilizer. Fertigation components may be included in micro-irrigation for continuous, efficient and uniform application of nutrients to improve productivity and quality of produce.
- ❖ Micro-irrigation could be seen as the congruence of sustainability, productivity, profitability and equity. Since micro-irrigation greatly enhances water, fertilizer and energy use efficiency and promotes precision agriculture, the sustainability could be achieved without the burden of environmental degradation.
- ❖ For the large scale adaptation of micro-irrigation technologies, the design of these systems and its various components such as filters, emitters *etc.* should be simple to use even by the traditional farmers for the successful operation and maintenance. After sales and maintenance services should be within the reach of the farmers.
- ❖ The country with its vast pool of trained manpower, a well established network of scientific institutions and strength in information technology, can become hub of research and development in water management and play a major role globally. The attention shall improve the water management in terms of technology development, adoption and overall growth of agriculture.
- ❖ Model for transfer of technologies/varieties developed/adapted by the Jain Irrigations Systems, Jalgaon in the surrounding villages, may be considered for its adoption by the ICAR Institutes, SAUs, KVKs *etc.* to achieve involvement in agriculture and allied sectors.
- ❖ Use of waste water in every municipal corporation should be used for development of green belt, which will also help in sequestering carbon. This need prioritization based on ecological principles rather than economical principles, having effective

linkage with all the stockholders to safeguard the interest of sustainable and climate resilient agriculture.

- ❖ Institutional support system linked with public and private enterprise would be essential. A concerted efforts with identified destination evolving all the stakeholders keeping the technology at driving seat and farmers as centre of attention would definitely help in achieving faster and inclusive growth.

## 1.2 Brain Storming Session on “Nano-Bio-Information Technology for the Development of North-Western Himalayan States on July, 12-13, 2013



Considering that, North-western Himalayan states are treasure trove of Biological diversity, an important source of various compounds, genes and proteins of industrial and pharmaceutical importance and recognising the needs of biodiversity which generates economic revenue through bio-prospecting which links biodiversity with industries, warranting its conservation and sustainable use of biological diversity to ensure the continuous supply of food, fiber, fodder and maintain ecological balance and promote industrial growth in

Himalayan states a brainstorming session was organized at GBPU&T 12-13 July, in association with **Confederation of Horticulture Associations of India**. The focus of discussion was on Advances in Nanotechnology, Biotechnology and Bioinformatics as they are of immense importance in preservation and bio-prospection of important molecules, by harnessing biodiversity to promote industrial and agricultural growth of these states. During the Brainstorming session, participants deliberated on the applications of nanotechnology, biotechnology and information technology to manage the challenges of food and nutritional security in these states and to promote the growth on front of agriculture, biomedical and industrial sector. After two days deliberations, following recommendations have emerged:



1. There is a need to evolve a pattern of inventorization of important bio-resources based on functional attributes species of plants, animals and microbes in NWHS.
2. There is a need to establish a consortium of scientists for north-western Himalayan states (NWHS) to catalogue bio-resources and define the rules for judicious exploitation of bio-resources and to perform genotyping, chemo typing and eco-typing of bio-resources. For that there is need to set up priority levels.

3. In order to characterize biodiversity and handle a lot of scripter data on chemo types of bio-resources, bioinformatics interventions are required. A chemical library base should be made and made available to scientists to identify potential chemicals.
4. Sequencing and genomics should be done on priority species. For this the combined expert panel should be made.
5. There is a need of policies on manpower development with enhanced skills to develop tools and techniques as well as applications of nano-bio-information technology in integrated fashion particularly in the field of Bioinformatics. A mechanism for integration of research and education **for development of competent and skilled human resource** by networking of institutions in north western Himalayan states through **faculty and student exchange** need to be worked.
6. Considering the global scenario, establishment of at least one Institute of Excellence as umbrella and satellite centers in different states of NW regions (vast area of the land -65% of total in NWH region, and rich biodiversity across three diverse agro-climatic zones) focusing on frontier sciences and technologies viz. nano-bio-information technologies for hi-tech research in agri-horti-forestry, agri-food-nutrition-pharma, mountain biology for ecological, food & nutritional security besides socio-economic up-liftment of people of NWH regions. **Thesis important to keep pace with the national priorities for harvesting the biodiversity for bioeconomy.**
7. In the field of Nanobiology, safety & toxicological studies should be discussed and a status paper on it should be made. There should be focus on nano-diagnostics, drug delivery and applications in field of food processing.
8. Need was felt to create a common website to link up institutions, product development issues etc. It should have list of all the potential technologies available in different institutions of these states.
9. There is need for development of network projects in NWHS zone in order to address issues of food, nutritional and ecological security.
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16. In the field of Nan biology, safety & toxicological studies should be discussed and a status paper on it should be made. There should be focus on nano-diagnostics, drug delivery and applications in field of food processing.

17. Need was felt to create a common website to link up institutions, product development issues etc. It should have list of all the potential technologies available in different institutions of these states.

18. There is need for development of network projects in NWHS zone in order to address issues of food, nutritional and ecological security.

### 1.3 The National Workshop on Urban and Peri-Urban Horticulture



A National Workshop on **Urban and Peri - Urban Horticulture (UPH)** a was organised at ASPEE College of Horticulture and Forestry, Navsari Agricultural University in association by Horticultural Society of Gujarat (HSG), Confederation of Horticultural Associations of India (CHAI), New Delhi and Gujarat Association for Agricultural Sciences (Navsari Chapter) 21<sup>st</sup> December, 2013. Shri R. C Patel, Whip, Legislative Assembly, Gandhinagar, Gujarat inaugurated the workshop. Prof. M C Varshneya, Former Vice Chancellor, Anand

Agricultural University and Dr. H P Singh, former DDG (Horticulture) and the Founder Delhi were the chief guests Dr. A. N. Sabalpara, Director of Research and Dean PG also graced the dias. Dr. N L Patel, Dean, of Horticulture and Forestry, who was also the chairman of the workshop, delivered the welcome address and gave the introductory remarks regarding workshop on UPH. Shri R C Patel congratulated the organizers for organizing National workshop on UPH for the first time in Gujarat. He highlighted the problems associated with increase in population and shrinking land and water resources in urban areas and suggested water recycling, water recharging exploring the potential of roof top cultivation of vegetables and flowers. Prof. M C Varshneya emphasized on the research needs in reference to climate change and importance of fruit trees as important component of UPH.



Dr. H P Singh delivered the keynote address, outlining the whole scenario of UPH in context to the rapid urbanization, growing population and industrialization with quantification of carbon sequestration for greening the cities. Dr. A. R. Pathak, hon'ble Vice Chancellor, urged upon the need for scientific research on UPH and inclusion of UPH in the course curriculum programme of Horticulture faculty, in his presidential address. During the inaugural session, a Souvenir comprising of different lectures on Urban and Periurban Horticulture compiled by Dr. N L Patel, the chairman, Dr. T. R. Ahlawat, and Dr. Alka Singh, the organizing secretaries was also released. Concurrent to this event a flower show including competition on flower arrangements, salad decoration, potted plants, bonsai etc was also organized to encourage participation from the younger generation. Concept of urban and peri-urban horticulture includes interior and exterior landscaping, rooftop gardening, aquatic gardening and utilization of vacant spaces for vegetable and flower cultivation. Further models and posters based on UPH were also displayed.



This workshop is a step forward for creation of awareness in the young regarding the role of Urban Horticulture in answering the issues of environment and nutritional security due to rapid urbanization. The technical discussions were organized in 4 Technical sessions; the best papers presented were awarded. The deliberations and discussions highlighted the need for greening the cities, meeting the needs, utilizing the waste and servicing the environment. The points which emerged from deliberations and discussions are given as recommendations.



- Water recycling is the only viable solution to address the challenged poised by growing population, climate change and increasing food demand. New townships should have mandatory provision for rainwater harvesting and waste water recycling.
- Owing to buildings and hard surface pavement, the urban heat island effect is very much visible in metropolitan necessitating increase in green cover reduce the CO<sub>2</sub> load and also to cool the micro as well as macro atmosphere. There is an urgent need to fix the green space criteria for various cities and the government should promote and support urban and peri-urban horticulture.
- Interior scalping with indoor plants should be increased in homes and offices as these are found to be linked with improved indoor air quality and better human health. Container gardening, balcony gardening and roof gardening are advisable for apartments and buildings.



- Municipalities should establish plantations based on *Nakshatra* garden or *Rashivan* garden near religious places and river banks. Secluded and moon gardens may be developed for relaxing in the night.
- City dwellers can be encouraged to develop kitchen gardens and herbal and aromatic gardens. In large townships and mining areas, tree spade as one of the emerging landscape solutions can be adopted with large tree transplanting (bur-laping) technology with the help of hydraulic machines.
- Protected cultivation of high value vegetables and flower crops should be encouraged in urban and periurban localities. Keeping health concerns in mind, there is a need to adopt environment friendly pest and disease management in urban and periurban areas with special focus on monitoring and biological control.



#### 1.4 Knowledge Sharing Workshop on Tropical Fruits - *Banana, Mango and Pomegranate*



Confederation of Horticulture Associations India (CHAI), and The Associated Chambers of Commerce and Industry of India (ASSOCHAM), in collaboration with Tamil Nadu Agricultural University, Coimbatore, Jain Irrigation Systems Ltd. (JISL), Jalgaon, Maharashtra and Association for the Improvement in Production and Utilisation of Banana (AIPUB), Trichy organised this workshop on

1st to 2<sup>nd</sup> March, 2014, at Hotel Residency, Coimbatore. The workshop had appreciable responses from across the country, and was participated by over 180 delegates from 9 states, representing, Government Departments, scientists from SAUs, ICAR institutes and private sectors. Many farmers from Tamil Nadu, A.P, Maharastra, Karnataka, Kerala and Gujarat participated in the workshop. Dignitaries, who attended the workshop are: Dr. Sanjeev Saxena, Principal Secretary and APC, Shri Satyabrata Sahoo, commissioner horticulture, Government of Tamil Nadu, Dr. H. P. Singh, Ex-DDG (Hort.), ICAR, New Delhi, Dr. D. P. Ray, Ex-VC, OUAT, Bhubaneswar, Dr. A. R. Pathak, VC, NAU, Navsari, Gujarat, Dr. Ram Swami, VC, TNAU and Dr. P. Rethinam, besides many Deans and Directors. Workshop provided opportunity for all the stakeholders to share the knowledge and disseminate for

its adoption and policy formulation, which could be a guiding factor for achieving goal of Smart Horticulture. The workshop deliberated on the issues, in the thematic areas across 5 technical sessions, besides introductory and Valedictory sessions.

Each session had panel representing industry and farmer in addition to experts as chairman, co chairman and convenors. Subject in each session was introduced by the Chairman CHAI, Dr H P Singh, bringing the focus of discussion on indentified issues. Thereafter presentations were made by the experts and discussion was moderated by the sessions chairman to arrive at logical conclusion. The workshop brought many issues which may have policy implications and new area of research, besides providing new knowledge to farmers.

The output and outcome of the workshop and recommendations which emanated from the workshop are:

- The workshop resolved that, banana, mango and pomegranate are most important tropical fruits, which contributes 57 percent to total production of fruits, and have provided higher production and profitability to the farm, through the technological advancement, but there are many issues, which needs attention immediately to sustain the production. Therefore, knowledge sharing workshop is inevitable and need to held in different states at regular intervals.
- Production and profitability of banana cultivation have increased many folds, which have reached to 28 million tones in 2011-12 form 6.5 million tons in 1991-92, largely contributed by adoption of Grand Naine (popularly referred as G 9) cultivars, use of healthy tissue culture plants and science based production system management. Many of indigenous cultivars which have potential have received les research attention. Therefore, it is essential that indigenous cultivars are also improved with respect to quality planting material and production system management, above all popularizing the nutritional and therapeutic values of these cultivars.
- Mono-culture of a cultivar is always a risk for devastating disease. To reduce the risk there is a need for more diversification, popularizing the cultivars, which have resistance to biotic and abiotic stresses. This would also be useful to contain the losses likely to occur due to climate change.
- Tissue culture plants have been successful in improving the production, reducing the soil borne diseases and nematode and above all, bringing uniform stand and harvesting.

Therefore, the technique of tissue culture should be extended to other group of banana to provide quality planting material with caution to eliminate virus in planting material.

- The success of tissue culture plants have been guided by effective monitoring of quality in terms of its freeness from virus diseases through self-certification system utilizing the facilities of accredited laboratories. Therefore, it should be mandatory for the farmers to take plants from the sources which have been certified for freeness from diseases and have fidelity tests performed. Success of low cost alternatives in reducing the total production cost of tissue culture banana has been achieved in laboratory, but, at the same time, material must be tested for genetic fidelity and productive status. This technology needs evaluation at pilot scale for commercial implementation by the companies. JISL, if so desire, can test these technologies in consultation with NRCB.
- Soil health is most important for optimizing the production. Soil pH and level of organic carbon and soil health have to be maintained through suitable amendments. Soil health has to be given due importance to get maximum efficiency.
- Banana roots are fibrous, and are largely restricted to top soils to support the plants with nutrients and water. These mats have to maintain with optimum nutrient and water. Mulching with HDP much and fertigation system have proved highly beneficial and require to be promoted. Therefore, invariably banana should be grown under fertigation and mulching to save water nutrients and diseases.
- Banana is invaded by large number of insect and pests. Some insects are vector for the transmission of diseases, while, some insects, thrips spoils the quality. Pests like, weevil causes direct effect on plant health affecting the loss of plants and production. These insects must be managed by integrated pest management including biological control. To promote technique of bio intensive pest management, training support for large scale production of biological material would be essential.
- Fungal and bacterial diseases cause serious losses to banana. Leaf spot diseases, Ervinia rot, and fusarium wilt are notable. Management practices developed for this disease need to be tested and demonstrated for large scale adoption by the farmers.
- Fusarium wilts caused by race 1 and 3 have been present across the country, which have been serious to Rasthali (AAB) group of banana. Cavendish group has been free so far.

However, biotype and race identified by NRCB is causing damage to Grand Naine banana in Teniers District, which is limited to few plots. Therefore, utmost care is needed to check its spread. At the same time, work must be intensified to isolate the pathogen and check through challenge inoculation in isolated plot.

- India has been free from Race 4 of Fusarium wilt which is most devastating to Cavendish group of banana in many Asian countries. This race has now reached Pakistan causing devastation. Therefore, to safeguard the interest of Indian banana, which is now dominated Cavendish group of banana, it is essential that no import of banana is made from outside, even tissue culture plants as even a single spore would be devastating. Taiwan has selected two genotypes, reported to resist Race 4. This variety should be introduced for risk management, in case race 4 occurs despite all the care quarantine.
- More than five viruses are reported causing severe losses, which are important in banana. These viruses are transmitted through infected planting material and subsequently by vectors through secondary infection, which take place from diseased host plants. The quick diagnostics developed by NRC could be adopted for early detection of virus. No planting material should be taken without certificate of freedom from these viruses.
- Although, banana has been marketed as French fruits, but several products have been developed, especially for the fruits which don't match the quality standards for fresh marketing. These products have to be popularized, through large scale demonstration, appropriate marketing strategies and support to the entrepreneurs.
- To reduce the losses and provide standard quality of fruits for marketing, both for domestic and export market, pack houses have to be established, with all the facilities for grading, packaging, ripening and storage. The technologies for pre-harvest and post-harvest management should be demonstrated for its adoption.
- Since pre-harvest factors determine the post-harvest quality, which has to be determined based on consuming market, banana production and post-harvest management has to be exhibited as an integrated approach, in the form of value chain management, adding value in chain of production till it reaches to consumers.

- Besides, many products, banana wine is highly acceptable but it could not take off, for the want of appropriate policy environment. Since, alcohol level of such wine is less than 10 percent, it should be excluded from excise duty. States like, Maharashtra has given exemption for grape wine. Which have been followed by Karnataka and Himanchal Pradesh resulting in establishment of many Vinery benefiting farmers and consumers. Thereafter, this policy must be extended in Tamil Nadu also.
- Pseudo stem waste in banana plantation could be effectively utilised for banana fibre and many other products. The pseudo-stem liquid could be used as nutrients and fortified pseudo stem liquid has potential to increase yield in many crops. The vermi compost made after extraction of the fibre from pseudo stem has high level of potassium. Since, the project has been successful under NIAP and if not persuaded further to logical conclusion, the potential benefit cannot be achieved. Therefore the project must be continued with the support of University and the Government. CHAI may also play a significant role in promotion of this technology.
- Mango, although an important crop has continued to be cultivated traditionally except for adopting of technology for plant health management. However, ultra Density planting has attracted attention to achieve high productivity and profitability. This technology of UHP needs to be promoted with due care utilising the gained knowledge on efficient management through technological back stopping.
- Intercropping in young as well as old orchards, depending on availability of light intensity, should be adopted for enhancing farm income. Elephant food yam, Colocasia and Turmeric would be a better crop for intercropping in mango orchards. Intervention will be needed for supply of quality seeds of these crops for the farmers.
- Mango needs ample amount of nutrients, which can only be sustained through optimum maintenance of soil pH, soil porosity, organic carbon content and micro flora. Therefore, falling leaves have to be incorporated into the soil, and nutrients application has to be based on leaf test values. Micro nutrients are largely deficient in many of the orchards, across the country which need supplementation for the harvest of optimum quality of fruits.
- Quality of mango fruits is determined by the fruits by number of leaves nourishing the developing fruits. Size, appearance and internal quality depends upon leaves to fruit

ratio. Therefore, leaf to fruit ratio should be worked out for different varieties in different agro climatic situations. Bagging of fruits is also advantageous for uniform ripening and physical quality and requires to be demonstrated.

- Mango is infested by large number of insect pest. Many of insects, which were minor, once upon a time have become a problem in some regions. Therefore, surveillance and monitoring of pest is essential to safeguard the interest of the farmers. The fruit fly management system developed by IIHR should be adopted.
- Value chain management starting from growing to harvest, handling, transportation, storage and ripening require much care supported by appropriate infrastructure. Therefore there is an urgent need to create or support the creation of infrastructure for value chain management, to reduce the losses and provide better income to be farmers.
- Pomegranate is emerging as potential crop for Tamil Nadu as evident from few of the trials conducted in farmers' fields. Trials have proved its potentiality especially where tissue culture plant coupled with double line of drip system and trellising have been adopted. Cultivation of pomegranate has provided much higher income to the farmers compared to many other perennial crops. However, to safeguard the interest of the farmers, only tissue culture plants should be promoted which are free from diseases, and farmer should be trained on this new crop.
- Adoptions of tissue culture plants and fertigation system have also helped in revival of pomegranate in Karnataka, which were lost due to widespread incidence of bacterial leaf blight. Therefore, only tissue culture plants should be used, since cutting may be the carrier of disease, proven through earlier investigations, where in nursery in pomegranate area was discouraged.
- In Tamil Nadu, Karnataka pomegranate may be promoted only in dry zone, which has irrigation. Plantation of pomegranate in coastal or humid area must be avoided to safeguard against the diseases.
- Fruit fly in pomegranate could be managed by light trap and leaf spot diseases by following the recommended strategies of protective sprays. The farmers who wish to take up pomegranate cultivation should be trained before, to avoid the risk of disease and get optimum yield of quality fruits, both for domestic and export market.



## 2. Meetings

### 2<sup>nd</sup> Annual General Council of Meeting (AGCM) of CHAI

The second annual general Council Meeting (AGCM) of Confederation of Horticulture



Associations of India (CHAI) was convened on 29<sup>th</sup> May 2013 at JISL, Jalgaon, Maharashtra to discuss the items and agenda and to confer the fellowship to distinguished members. The meeting started with welcome to the Chairperson, Dr. H.P. Singh and distinguished guests, Dr. A.R. Pathak and all distinguished fellows, by Sh. K.B. Patil, secretary, CHAI, Jalgaon Unit. Dr Singh in his introductory remarks gave a brief account of the activities of CHAI. During last one year, from last annual general body meeting (AGCM) held at Bhubaneswar, 48 new members have joined which include 4 corporate

members, 1 institution, 1 NGO member and rest individual members representing scientists, entrepreneurs and progressive farmers. He also informed about the launching of the International Journal of Horticulture by his Excellency Hon'ble Hansraj Bhardwaj, Governor of Karnataka on 22<sup>nd</sup> August 2012 and said that second issue of volume 1 is also formed that second issue of in press and the second volume is under preparation. Dr. Singh requested the distinguished members to



contribute quality papers. He also informed about the institution of awards namely Dr. R.S. Paroda award for excellence in science and technology, Dr. B.H. Jain award for excellence in dissemination of knowledge, Life Time Achievement Award JISL Fellowship for training abroad and best dissertation award. Annual Report and year book were released. Organization of workshop on Urban and Periurban Horticulture with a theme – Greening the cities, utilizing the best, meeting the needs, and servicing the environment, was

informed, and the proceeding were made available. He also stressed the need of support of the entire distinguished fellows for brining the publication. The account of CHAI for 2012-13, approved by CA was also displayed which indicated that the CHSI has fixed deposit of Rs. 35 Lakhs in addition to created assets. The distinguished fellows were used for their support in financial strengthening of CHAI, so that more units can be established. It is matter of satisfaction that the confederation has been certified for ISO9001.8002. Thereafter, distinguished fellows were conferred with the fellowship of CHAI for their commitment to furtherance of horticulture/ Agriculture. The best paper award was also



conferred to distinguish scientist for publication of scientific article in International Journal of innovative horticulture.



Dr. A.R. Pathak, while addressing the gathering expressed his appreciation of activities of confederation and thanked the Chairman for his visionary approach and wished that CHAI grow both horizontally and vertically. During the discussions, various members put forth the points like white paper of Genetically Modified Food, taking the commitment of members for their contribution, organizing brainstorming sessions, bringing more farmers' association under the umbrella of CHAI. After that in-depth discussion the point which emerged are:

1. The CHAI has made outstandingly appreciable progress an its activities are visible in terms of outcome. The CHAI is moving forward an achieving its goal and mission. The chairman has been soldering the responsibilities or all the activates of CHAI and it is the responsibility of fellows to support in achieving the stipulated objectives of CHAI. The House approved all the activities and appreciated the initiative s and resolved that the Founder and Chairman may continue to all the initiatives as he dreamed it fit and resolve to authorize the Chairman.
2. The more units of CHAI depending on the strength in region shall be opened and unit opened at Nagpur should be made more functional by taking activities and it was also suggested that both Bangalore and Jalgaon unit must contribute for furtherance in horticulture and agriculture. The support for the conference will continue on the conditions stipulated that more funding for conferences and trainings by CHAI to be returned with other savings to strengthen the CHAI.



### 3 Field Visits and delivery of Special Lectures:



Field visit were made by the Founder and Chairman, CHAI to provide solution to the problems in growing horticultural crops. He covered more than 100 farmers in the state of Tamil Nadu, Maharashtra, Gujarat and Bihar. To create awareness about various aspect of horticulture, Dr. Singh delivered a keynote lectures having focus on new technology like nano technology, water management technology interventions for horticulture. He also delivered

many lecturers for the benefit of college students on horticulture for food and nutritional, paradigm in agriculture, creating leadership and smart horticulture.



#### **4 MoU with PHD Chambers of Commerce**



CHAI has moved forward in getting recognitions of apex organization working for the development. A memorandum of understanding (MOU) was signed on 4<sup>th</sup> April, 2014 when CHAI was represented by DR. H.P. Singh and PHD chamber of Commerce represented by at the office, PHD house represented by Dr. N.M. Kejriwal, Chairman, Agribusiness Committee and Mr. Yogesh Srivastva, Se. Secretary PHD Chamber. It has been agreed that the chamber will be synergy partner and CHAI the knowledge partner. The CHAI will provide technical

support to the programme organized by PHD chambers and provide the role of in programme as synergy partner. A programme on Urban and Peri-urban Horticulture, to create awareness will be organized jointly.

## 5 Balance Sheet of CHAI

### CONFEDERATION OF HORTICULTURE ASSOCIATION OF INDIA 249, Kargil Colony, Dwarka, New Delhi-110075

#### BALANCE SHEET AS ON 31.03.2011

| Liability                            | Amount            | Assets                          | Amount            |
|--------------------------------------|-------------------|---------------------------------|-------------------|
| <b><u>Shareholder's Fund :-</u></b>  |                   | <b><u>Fixed Assets :-</u></b>   |                   |
| 10000 Equity Share of Rs. 10/- each  | 100,000.00        |                                 |                   |
| Reserves and Surplus                 | -                 |                                 |                   |
| <b><u>Loans(Liabilities)</u></b>     |                   | <b><u>Current Assets :-</u></b> |                   |
| Unsecure Loan                        | 76,000.00         | Cash in Hand                    | 1,000.00          |
|                                      |                   | Cash at Bank                    | 99,775.00         |
| <b><u>Current Liabilities :-</u></b> |                   | Miscellaneous Expenditure       | 85,225.00         |
| Audit Fee Payable                    | 10,000.00         |                                 |                   |
| <b>Total</b>                         | <b>186,000.00</b> | <b>Total</b>                    | <b>186,000.00</b> |

### CONFEDERATION OF HORTICULTURE ASSOCIATION OF INDIA 249, Kargil Colony, Dwarka, New Delhi-110075

#### BALANCE SHEET AS ON 31.03.2012

| Liability                            | Amount            | Assets                          | Amount            |
|--------------------------------------|-------------------|---------------------------------|-------------------|
| <b><u>Shareholder's Fund :-</u></b>  |                   | <b><u>Fixed Assets :-</u></b>   |                   |
| 10000 Equity Share of Rs. 10/- each  | 100,000.00        | Tangible Assets                 | 1,700.00          |
| Reserves and Surplus                 | (4,829.00)        |                                 |                   |
| Application Money Pending Allotment  | 100,000.00        |                                 |                   |
| <b><u>Loans(Liabilities)</u></b>     |                   | <b><u>Current Assets :-</u></b> |                   |
| Unsecure Loan                        | 76,000.00         | Loans & Advances                | 50,000.00         |
|                                      |                   | Cash in Hand                    | 128,000.00        |
|                                      |                   | Cash at Bank                    | 48,325.00         |
| <b><u>Current Liabilities :-</u></b> |                   | Miscellaneous Expenditure       | 60,000.00         |
| Audit Fee Payable                    | 16,854.00         |                                 |                   |
| <b>Total</b>                         | <b>288,025.00</b> | <b>Total</b>                    | <b>288,025.00</b> |

**CONFEDERATION OF HORTICULTURE ASSOCIATION OF INDIA**  
**249, Kargil Colony, Dwarka, New Delhi-110075**

**BALANCE SHEET AS ON 31.03.2013**

| Liability                            | Amount              | Assets                             | Amount              |
|--------------------------------------|---------------------|------------------------------------|---------------------|
| <b><u>Shareholder's Fund :-</u></b>  |                     | <b><u>Fixed Assets :-</u></b>      |                     |
| 10000 Equity Share of Rs. 10/- each  | 500,000.00          | Tangible Assets                    | 128,131.00          |
| Reserves and Surplus                 | 3,988,941.00        |                                    |                     |
|                                      |                     | <b><u>Investments :-</u></b>       |                     |
|                                      |                     | Fixed Deposits                     | 3,500,000.00        |
|                                      |                     | Interest accrued on Fixed Deposits | 62,028.00           |
|                                      |                     | <b><u>Current Assets :-</u></b>    |                     |
| <b>Loans(Liabilities)</b>            |                     | Loans & Advances                   | 189,155.00          |
| Unsecure Loan                        | 91,000.00           | Cash in Hand                       | 516,100.00          |
|                                      |                     | Cash at Bank                       | 156,381.00          |
| <b><u>Current Liabilities :-</u></b> |                     | Miscellaneous Expenditure          | 45,000.00           |
| Audit Fee Payable                    | 16,854.00           |                                    |                     |
| <b>Total</b>                         | <b>4,596,795.00</b> | <b>Total</b>                       | <b>4,596,795.00</b> |

## AWARDS AND FELLOWSHIPS

### CHAI Awards and Fellowships

The Confederation of Horticulture Associations of India (CHAI), has instituted a Lifetime Achievement Awards and Honorary Fellowships, to recognize the scientists for their contribution and excellence in agricultural sciences, specially horticulture, including biotechnology and environmental sciences. In addition, it was also decided to institute Padma Bhusan Dr. R.S. Paroda Award for Excellence in research. Subsequently, Padamashri Dr B.H Jain Award for excellence in dissemination of technology has also been instituted. This award will recognize the outstanding contribution of extension workers and teachers for their contribution in dissemination of knowledge. Ramnandan Babu Award for innovative has been instituted to recognizing the innovation of farmers. To support the knowledge provided for participation in conference abroad JISL Fellowship has been instituted. These awards/fellowships will be conferred on scientists, entrepreneurs/ innovative farmers based on the merit, as adjudged by high powered committee, once in a year, on the suitable occasion of national or international conference organized or supported by the CHAI or foundation day. The guidelines framed for nomination, selection and conferment of award, as finalized by Board/Directors/Chairman, which are liable to be amended, from time to time, for CHAI Awards and Fellowships are:

#### 1). LIFE TIME ACHIEVEMENT AWARD

A Life Time Achievement Awards, once in a year, shall be given to selected scientists or research managers for their distinguished services for the cause of horticulture/agriculture research, education and technology dissemination, which has impacted the development in the country. The awardees should have contribution to the furtherance of horticulture/agriculture and must have peer recognition at nationally and internationally, as supported by the publications, products, processes, cultivars and patents etc. The nomination with bio-data in performa, as given Annexure I and II will be needed by the search committee

- **Eligibility for nomination:** He or she nominated for Life Time Achievement Award should have attained 60 years of age, latest by the last date for nomination, and should be known for his/her contributions nationally or internationally. The period for assessment shall be based on the contributions made in life, up to the year of nomination. The award shall consist of a certificate, citation and plaque of honor, and he or she shall be the honorary fellow of confederation.
- **Who can nominate?** The nomination can be made by any scientist working in horticulture research with a distinguished career, and is member of the CHAI. Selection will be made based on the nominations along with the relevant information with evidence of outstanding contributions of each nominee. The nomination can also be sent by Deputy Director Generals, ICAR, Vice Chancellors, ADGs, Directors of Research institutes/ SAU/CAU and Presidents and Secretaries of member societies of the CHAI, in the prescribed format. Self nominations are not acceptable. The search committee constituted by the Founder and Chairman, CHAI shall submit recommendations for the approval of Founder Chairman. This shall be a consensus decision.

## **2). PADMA BHUSHAN DR.R.S PARODA AWARD FOR EXCELLENCE**

This award has been instituted in the name of Padma Bhushan, Dr. R.S. Paroda, by the confederation, in recognition to his contributions in national and international development of agriculture, and his passion for the agricultural research, education, transfer of technology and building the infrastructure for its support. Dr. Paroda is not only adorned with various awards but his commitment is a testimony to create confidence among scientists, who are converting research into knowledge for horticulture/agriculture and providing policy guidelines. Having occupied national and international position, the contribution of Dr. R.S. Paroda as Director General, ICAR is memorable to all the scientists in the country. He still continues serving farmer's community as the Chairman, TAAS and also Farmers' Commission, Government of Haryana. Therefore, the award is instituted to recognize the scientific excellence in agriculture, specially horticulture, biotechnology and environmental sciences, Dr. R. S. Paroda award shall be given once in a year, which will consist of a citation, a plaque of honor and a commitment to support foreign travel assistance to actual expenditure or maximum of Rs fifty thousand, whichever is least, for oral presentation of the paper selected in international conference. The validity of the financial grant will be for a period of 2 years from the date of award announcement. This assistance is nontransferable.

- **Eligibility for nomination:** The scientist not exceeding age of 55 years shall be eligible for nomination on or before the last date of application. The contribution of scientists should be known internationally or nationally in development of cultivars /technology/product/process/ patent developed and duly supported by evidence of publications.
- **Who can nominate?** Selection will be made based on the nominations along with the relevant information (Annexure I and II) on outstanding contributions of each nominee. The persons/institutions eligible for making nominations for the above awards would be the DDGs, ADGs of ICAR, Vice Chancellor's, Heads of CGIAR centers, Directors/Deans/Joint Directors of ICAR and SAU's/CAU and Presidents of all member societies of the CHAI and fellow of CHAI or person of repute, in the prescribed format. Self nominations are not acceptable. The judging committee constituted by the Founder and Chairman, CHAI shall submit recommendations for approval of the Board of Directors/Founder and Chairman.

## **3) PADMA SHRI DR. B.H JAIN AWARD FOR EXCELLENCE IN DISSEMINATION OF KNOWLEDGE**

This award has been instituted in the Name of Padma Shri Dr B.H Jain, by the Confederation, in recognition to his contributions in national and international development of agriculture, his passion for knowledge based agriculture, and empowerment of youth and farmers with new technology to make the farming profitable. Dr. Jain is not only adorned with various awards but is a testimony to create confidence among farmers, who are converting adopting the knowledge for improving farm practices. Having national and International recognitions, the contribution of Dr. Jain as enterprising leader for converting unproductive land into a green is un-parallel. He continues serve-farming communities. Therefore, the award is instituted to recognize the extension worker and teacher in agriculture. This shall be given once in a year, and shall consist of a citation, a plaque of honor and certificate. He or she conferred with award shall be eligible to seek

financial assistance .The validity of the award for seeking financial assistance will be for the period of two years from the date of announcement of selection.

- **Eligibility for nomination:** The scientist not exceeding age of 55 years shall be eligible for nomination on or before the last date of application. The contribution of scientists should be known internationally or nationally in development of cultivars /technology/product/ process/ patent developed and duly supported by evidence of publications.
- **Who can nominate?** Selection will be made based on the nominations along with the relevant information (Annexure I and II) on outstanding contributions of each nominee. The persons/institutions eligible for making nominations for the above awards would be the DDGs, ADGs of ICAR, Vice Chancellor's, Heads of CGIAR centers, Directors/Deans/Joint Directors of ICAR and SAU's/CAU and Presidents of all member societies of the CHAI and fellow of CHAI or person of repute, in the prescribed format. Self-nominations are not acceptable. The judging committee constituted by the Founder and Chairman, CHAI shall submit recommendations for approval of the Board of Directors/Founder and Chairman.

**4) RAMNANDAN BABU AWARD FOR INNOVATION IN FARMING** This award recognizes an innovative skills of a farmer and is named after, Sri Ramnandan Babu Mahmada, Pusa, Samastipur, Bihar who supported his family with very small holding through his innovation. This award is instituted on his name. The award will recognize the innovations in farming for enhanced productivity of land and water generating highest income per unit of land. This award will given once in a year and shall consist of citation, a plaque of honour and certificate. The he or she conferred with award shall be eligible to seek financial assistance for upgradation of Knowledge. The validity of award for seeking financial assistance will be for the period of two years from the date of announce of the selection.

- **Eligibility for nomination:** The farmer not exceeding the age of 55 years shall be eligible for nomination on or before the last date of application. The contribution of farmer should be known internationally or nationally for his innovations in farming as evident from peer recognition awards and documents
- **Who can nominate?** Selection will be made based on the nominations along with the relevant information (Annexure I and II) on outstanding contributions of each nominee. The persons/institutions eligible for making nominations for the above awards would be the DDGs, ADGs of ICAR, Vice Chancellor's, Heads of CGIAR centers, Directors/Deans/Joint Directors of ICAR and SAU's/CAU and Presidents of all member societies of the CHAI and fellow of CHAI or person of repute, in the prescribed format. Self-nominations are not acceptable. The judging committee constituted by the Founder and Chairman, CHAI shall submit recommendations for approval of the Board of Directors/Founder and Chairman.

**5) JISL FELLOWSHIP:** This is a sponsored fellowship to promote young scientists, entrepreneurs, farmers-the knowledge provider to participate in international conference for the presentation of new innovations. All the members are eligible. One fellowship in a year will be given based on merit.



- **Eligibility for nomination:** The scientist not exceeding age of 55 years shall be eligible for nomination on or before the last date of application. The contribution of scientists should be known internationally or nationally in development of cultivars /technology/product/ process/ patent developed and duly supported by evidence of publications.
- **Who can nominate?** Selection will be made based on the nominations along with the relevant information (Annexure I and II) on outstanding contributions of each nominee. The persons/institutions eligible for making nominations for the above awards would be the DDGs, ADGs of ICAR, Vice Chancellor's, Heads of CGIAR centers, Directors/Deans/Joint Directors of ICAR and SAU's/CAU and Presidents of all member societies of the CHAI and fellow of CHAI or person of repute, in the prescribed format. Self-nominations are not acceptable. The judging committee constituted by the Founder and Chairman, CHAI shall submit recommendations for approval of the Board of Directors/Founder and Chairman.

#### **6). HONORARY FELLOW OF CHAI**

One of the objectives of Confederation of Horticulture Associations of India (CHAI) is to recognize the excellence in scientific research. Thus, from among the member Fellows are identified with academic excellence in different areas of horticulture/agriculture, adjudged on the basis of outstanding achievements and sustained significant contributions in horticulture for honorary fellowship. The nomination can be received from any scientist working in research and development of horticulture, preferably member of CHAI. A maximum of five Fellows will be inducted in a year. The recommendations of search committee shall be put for approval to The Founder Chairman/Board of Director. The decision of the Founder and Chairman shall be final. The recipient of life time achievement award shall become honorary fellow of CHAI.

#### **7). FELLOWSHIP OF CHAI**

Certificate of membership or admission to Confederation of Horticulture Associations of India (CHAI) shall be in the form of Fellow of CHAI. There shall be Corporate Fellowship, Association Fellowship, and Institutional Fellowship. NPO Fellow and Individual Fellowship. Two members each have to nominate for membership and right to admission to the CHAI is reserved present with committee and Board of Directors. This fellowship recognizes the commitment of all the individuals, corporate sector, Institutions, NPO and associations for the horticulture/agriculture research and development. Decision of the Board of Directors/Chairman shall be final. No representation shall be entertained by the CHAI

#### **8) BEST DISSERTATION AWARD**

The Confederation of Horticulture Associations of India (CHAI) wishes to recognize the research of the student at Ph.D. level by conferring best dissertation award based on relevance of topic of research, quality of research output and outcome and its application in the field of science. This award will be given once in two years. The awardees' will receive the certificate, plaque of honour and free subscription of Journal – International Journal of Innovative Horticulture for the year.

- **Eligibility for nomination:** The student who has submitted the thesis and completed the viva voce. The student who has been awarded Ph.D. in last proceeding Year are also eligible.
- **How to apply?** The interested eligible candidates can send their application with full details containing name and address title of thesis summary along with a copy of dissertation for consideration by Confederation of Horticulture Associations of India (CHAI).

## Annexure-II

### INTERNATIONAL JOURNAL OF INNOVATIVE HORTICULTURE

#### **Guidelines**

The Confederation of Horticulture Associations of India (CHAI), established in the year 2010, has been devoted for the furtherance of horticulture development and has various categories of members including associations, corporate and individual memberships. The Confederation has been partner in organization of national and international conferences including National Symposium on Molecular Approaches for Management of Fungal Diseases of Crop; Global Conference on Meeting the Challenges in Banana and Plantain for emerging biotic and abiotic stresses; International Conference on Coconut Biodiversity for Prosperity; National Conference on Production of Quality Seeds and Planting Material – Health Management in Horticultural Crops; International Conference on Mango and now Global conference on “Horticulture for food, nutrition and livelihood options”, at OUAT, Bhubaneswar from 28-31, May, 2012. The confederation also recognizes services of individuals through various awards such as Dr. R.S. Paroda award for excellence in horticulture.

On the request of members across the country, the CHAI executive council decided to launch a new journal named as International Journal of Innovative Horticulture. The first issue of the journal shall be released at the occasion of General Council meeting to be held at OUAT, Bhubaneswar on 31st May, 2012. The journal shall be published both in hard form and also as open access e-journal. This journal will have peer review from India and abroad. It shall cover different aspects such as Plant genetic resources, Crop Improvement, Biotechnology, Production system management, Protection technologies, Post harvest technology, Secondary agriculture, Marketing and supply chain etc. related to horticulture groups viz. fruits, vegetables, flowers, plantation, spices, tuber crops, mushroom and medicinal and aromatic crops.

The journal will publish full length research papers at an interval of six months initially which will be converted into quarterly publication in the years to come. Besides full length papers, the journal shall cover information on newly released varieties or achievement of high order as short communication and highlights of dissertation for wider coverage.

#### **Author Instructions**

The International Journal of Innovative Horticulture (IJIH) is a biannual publication of Confederation of Horticulture Associations of India (CHAI). The Journal contains papers on results of original research on horticultural plants and their products or directly related research areas. Its

prime function is communication of mission-oriented, fundamental research to other researchers, to professional horticulturists, practitioners, and educators; to promote and encourage the interchange of ideas among scientists, educators, and professionals working in horticulture.

### **Manuscript Submission**

Any information that is already in the public domain in a scientific context will be considered published and will not be published again by the International Journal of Innovative Horticulture.

All papers must be submitted online through email to [confedhorti@gmail.com](mailto:confedhorti@gmail.com)

### **Copyright**

CHAI retains copyright for all Society publications. Permission to reprint, republish, or reproduce individual contributions or parts of contributions must be obtained from CHAI in writing. Also, CHAI requires that credit be given by indicating the volume number, pagination, and date of publication.

### **Review policy and procedure**

Before submission, manuscripts must be reviewed by two colleagues and revised appropriately, with the names of the reviewers included on the manuscript submission form. Manuscripts must be in IJIH style to be considered for publication. Submitted manuscripts that do not conform to standards will be returned to authors for correction. Manuscripts submitted for publication are reviewed by Editors who solicits at least two additional peer reviews. The purpose of the reviews is to assure readers that competent, independent professionals have found the published papers acceptable. Some revision is usually necessary after the reviews, and final acceptance generally depends on satisfactory revision. A manuscript will be considered withdrawn if the author will not respond within 2 months to a request for revision.

### **Procedure after acceptance**

After acceptance of the manuscript, authors will receive an email message from the Editor-in-Chief instructing them to send an email with the final version of the manuscript including figures (as attachment). Send text in Microsoft Word and if you have nonstandard word processing software, submit a Rich Text Format. Preferred formats for graphics are EPS, WMF, TIFF, JPG with high resolution (preferably 200 dpi). Page proofs are sent in PDF format via email to the corresponding author.

### **Manuscript Preparation**

Your paper must be in the correct format for submission. Please double-space all text. Authors must provide the names and email addresses of five potential reviewers for your paper. They are also asked to give the names of two colleagues who provided an internal review. A manuscript number will assign to each new or resubmitted manuscript; refer to this number in all subsequent correspondence. Upon receipt of a manuscript, the author will be sent an acknowledgment email message indicating the date of receipt and the manuscript number.

The journal accepts publication under following category:

Full-length research reports

Reviews

Variety releases

Features, colloquia, and workshops

Reports

Viewpoints

Technology and product reports

- Book reviews

Examples of Reference style from different publications

**Journal article**

Vessey, J.K., E.K. York, L.T. Henry and C.D. Raper, Jr. 1988. Uniformity of environmental conditions and plant growth in a hydroponic culture system for use in a growth room with aerial CO<sub>2</sub> control. *Biotronics*. 17:79-94.

**Book**

Gomez, K.A. and A.A. Gomez. 1984. *Statistical Procedures for Agricultural Research*. 2nd Ed. Wiley, New York.

**Chapter in book**

Cull, B.W. 1987. A whole plant approach to productivity research for mango, In: *Mangoes—A review*. R.T. Prinsley and G. Tucker (Eds.). p. 19–28. The Commonwealth Secretariat, London.

**Symposium/meeting proceedings**

Wample, R.L., and T.K. Wolf. 1996. Practical considerations that impact vine cold hardiness. In :*Proceedings for the Fourth International Symposium on Cool Climate Enology and Viticulture*. T. Henick-Kling et al. (eds.), pp. 23-38. New York State Agricultural Experiment Station, Geneva.

Tapia, M.I. 1995. In vitro plant regeneration of grapevine (*Vitis* sp.) hybrid cultivars and genetic transformation through microprojectile bombardment of in vitro-derived axillary buds. Ph.D. Thesis, University of Nebraska, Lincoln, Nebraska.

**Patent**

Garner, I. December 2002. Process for unbalanced wine. U.S. patent 123,456,789.

**Abstract**

Walker, M.A., H. Ferris, and L. Zheng. 2006. Rootstocks with broad and durable nematode resistance. *Abstr. Am. J. Enol. Vitic.* 57:383A. Reference for Conference/Symposium

## GUIDELINES FOR PEER REVIEWER

Please review the manuscript as you would want one of your manuscripts reviewed. Provide as many constructive comments and useful recommendations as possible. Provide the reasons for your evaluation of the manuscript.

As a reviewer you have the responsibility for providing a constructive, well-reasoned appraisal of manuscripts phrased in the spirit of professional courtesy. For each manuscript you should be able to provide a clear and definite answer to the following questions:

1. Has any material in this article been published previously? If so, please supply details to the editor.
2. Is the research of adequate significance (new findings, confirms or contradicts other work) to warrant publication?
3. Is the research scientifically sound?

The following outline derived from information in the Council of Biology Editors Style Manual may assist you in your evaluation of a manuscript.

### 1. Title

- i. Is the title appropriate and clear?

### 2. Abstract.

- i. Is it specific and representative of the article?
- ii. Is the motive for the research indicated?

### 3. Introduction

- i. Identify subject, is the subject of the article clearly identified?
- ii. Orient research to previous concepts and research.
- iii. Is the objective and/or hypothesis important for the area of research?

### 4. Materials and Methods

- i. Design, is the design appropriate for the purpose of the study?
- ii. Model, is the statistical analysis clearly presented with the most appropriate method for treatment comparisons?
- iii. Subject(s), are all plants and chemicals identified?
- iv. Materials, are the materials used in study adequate?
- v. Procedures, is there sufficient detail to enable the reader to duplicate the procedures?
- vii. Methods for observations and interpretation.

### 5. Results

- i. Are the results presented in a logical sequence to support the hypothesis?
- ii. Are the tabular data summarized or merely repeated in the text?

## **6. Discussion**

- i. Interpret data presented in Results in a succinct manner. Are there errors of fact or interpretation?
- ii. Relate findings to previous research. Is the relationship between the results and previous work relevant?
- iii. Has the author cited all and only pertinent literature?
- iv. Reasons for differences in results.
- v. Implications for practical application and future research.

## **7. Conclusions**

- i. Are conclusions stated briefly in a logical order?
- ii. Considerable time can be saved by entering spelling corrections, grammatical suggestions, and word rearrangements directly on the manuscript.

## **DESCRIPTION OF CATEGORIES**

Name of Article Reviewer:

Date of Review:

Author(s):

### **Title:**

#### **Requires major revision**

Major improvement in style or presentation required.

Some revision required in description of methodology and/or discussion and interpretation of results.

Requires major revision and re-review

Major improvement required in description of methodology and/or discussion and interpretation of results.

#### **Un acceptable**

Not relevant to IJH

Unsuitable experimental procedures.

Insufficient contribution to knowledge.

Presentation not of adequate quality.

## COMMENTS OF REVIEWERS

**Author(s): Title:**

**Recommendation (check one)**

Acceptable with  requires major revision

Minor revisions and re-review  Unacceptable

Reviewer's Comments (Please provide a paragraph of general comments supporting the recommendation, followed by a list of specific comments. These comments may be in addition to or in lieu of reviewer comments inserted into the text of the article.)

We thank all the reviewers for their dedicated service to IJH, and welcome any comments or suggestions about these requests and instructions specifically, or the IJH review process generally.



**NOMINATION FORM FOR AWARDS/FELLOWSHIP OF THE CHAI**

*Name of the proposer:*

Phone/Mobile No.:

E-mail:

Address:

*Name of the nominee:*

Phone/Mobile No. :

E-mail:

Address:

Field of specialization of the nominee

Salient contributions of the nominee:  
(Restricted to one page)

Awards and recognitions received by the nominee:

**BIO-DATA OF NOMINEE**

1. Name in full (in capitals): .....

2. Date of birth and nationality: .....

3. Field of specialization: .....

4. Present Position/ Designation: .....

5. Address: (a) Official:.....

.....

.....  
E-mail: ..... Tel No.....

(b) Residential Address.....

.....

Mobile No.....Telephone No.....

6. Academic qualification: .....

.....

7. Employment records:

|                |                          |
|----------------|--------------------------|
| Positions held | Organization/Institution |
| Period         |                          |

8. Significant achievements (attach separate sheets restricting to a Maximum of two pages)

- a) Research, teaching and extension achievements in horticulture as evidenced by publications, technologies developed, varieties / products/process/patents etc.
- b) Awards and honors (National and international based on scientific work, Peer reviewed recognitions such as Fellowship, Office bearer of major Academy/Society, Chairman of session or Contribution in organization of important international/national symposia/seminars in relation to horticulture etc.).
- c) Innovations in horticulture
- d) Community activity for the cause of horticulture.
- e) Contribution in quality improvement and export promotion of horticulture.
- f) Continuation of dissemination of technology.
- g) Continuation in teaching and education.

**DECLARATION**

I certify that the information given above is correct to the best of my knowledge and belief.

Place:

Date:

Signature of the Nominee



## Confederation of Horticulture Associations of India, New Delhi (CHAI)

(An ISO 9001:8002 certified organisation)

### MEMBERSHIP FORM

To,

The Chairman  
Confederation of Horticulture Associations of India  
249, Kargil Colony, Dwarka, Delhi - 110075

Sir,

May I request you to kindly enrol me as a Association/Institutional/ corporate/Individual Member of CHAI. I agree to abide by all rules and regulations of the Association. I am enclosing herewith a Cheque\* / Demand Draft/e-transfer (drawn in favour of Confederation of Horticulture Associations of India, New Delhi) for Rs. \_\_\_\_\_ as my Membership Fee. My particulars are given below:

1. Name (Block letters) : \_\_\_\_\_
2. Address : \_\_\_\_\_  
(for society/institute)  
Postal Address : \_\_\_\_\_  
\_\_\_\_\_
3. Tele No. : \_\_\_\_\_ Fax : \_\_\_\_\_
4. Email Address : \_\_\_\_\_  
: \_\_\_\_\_
5. Brief bio data( if not enough space please  
attach: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Signature with date

Nominated by. -----/

Signature

For any further correspondence you may contact to the Founder and Chairman, Confederation of Horticulture Associations of India, 249, Kargil Colony, Dwarka, Delhi – 110078, Phone: (91-11)-28085749, mobile 09871450730 or 9582898983, Email: [confedhorti@gmail.com](mailto:confedhorti@gmail.com) [cnfedamit@gmail.com](mailto:cnfedamit@gmail.com)

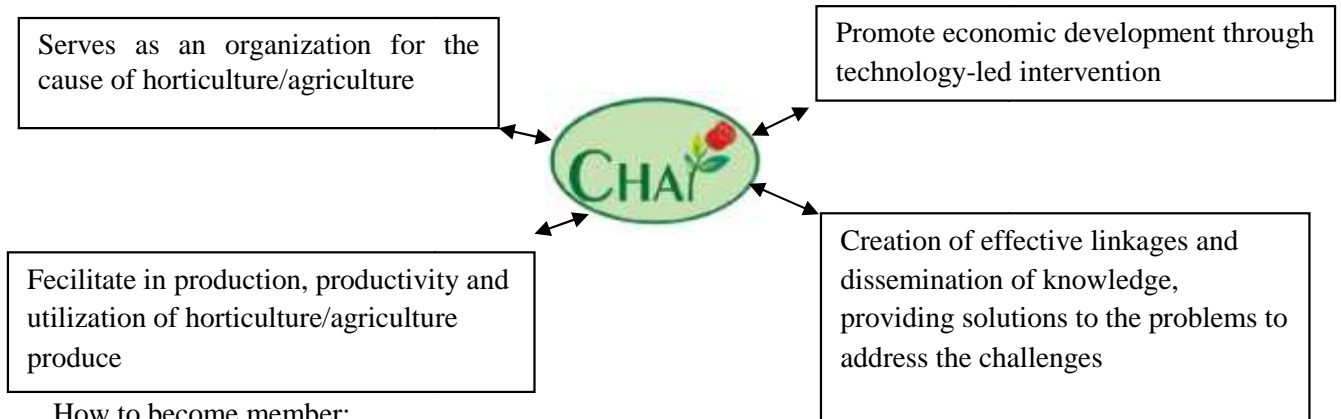
Membership Fee: NPO member & Corporate member- Rs 1,00,000, Institutional Member-Rs. 100,000 , Association members. Rs 50,000 Individual Member- Rs. 25000 \*An amount of Rs. 50 should be added in case of outstation cheques as collection charges. For electronic transfer, the IFSCcode is IOBA0000442 Account number is 044202000007039, Indian Overseas Bank, Rajendra Place, New Delhi, account name Confederation of Horticulture Associations of India.



## CONFEDERATION OF HORTICULTURE ASSOCIATION OF INDIA (CHAI)

*Let us join with CHAI for the furtherance of Horticulture*

Mission: Bringing synergy among different institutions, associations, corporate sector, non profiting organization, scientists, experts and entrepreneurs to encourage effective participation of all stakeholders for accelerating the economic growth through technological interventions and human resource development



How to become member:

Membership of the Confederation is open to all who are committed for furtherance of horticulture and membership is available on application to the Confederation and payment of the membership fees. Payment can be made by cash/demand draft/multicity cheque in favour of "Confederation of Horticulture Associations of India" payable at "New Delhi". The certificate of membership will be in the Fellow of CHAI, if approved by the Founder Chairman.

Classes of Memberships and Rates

Corporate/Institutional/NPO Member: Rs.1,00,000

Association member: 50,000

Individual Member: 25,000

Foreign Member: US\$ 5000

Members shall be privileged to receive International Journal of Innovative Horticulture for 15 years free of cost\*. They shall be eligible to apply for Awards of CHAI and also apply for financial assistance for attending international conferences.

Contact:

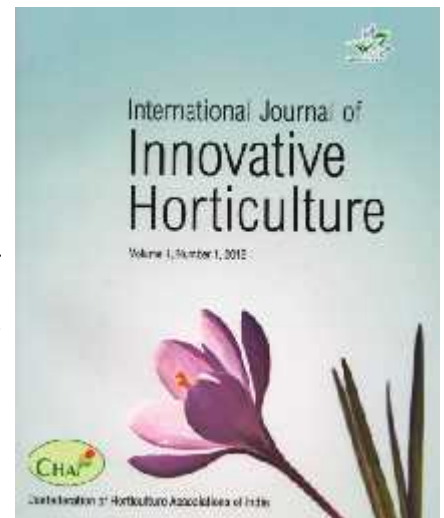
Founder Chairman

Confederation of Horticulture Association of India,  
249, Vijayee Veer Awas, Kargil Apartments, Sector 18 A,  
Dwarka, New Delhi-110078, India

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