

## The First International Conference on Bio-resource and Stress Management: A Review

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### Article History

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The First ever *International Conference on Bio-resource and Stress Management* was held during 6-9 February, 2013 at Science City, Kolkata, India under the chairmanship of Prof. R. K. Maiti, PhD, DSc and with the great leadership of co-chairman Prof. Humberto Gonzalez Rodriguez, PhD. The conference ([www.bsmconf.in](http://www.bsmconf.in)) was organized by Ratikanta Maiti Foundation ([www.rkmf.org.in](http://www.rkmf.org.in)), Kolkata in collaboration with the technical partner, Central Research Institute for Jute and Allied Fibres ([www.crijaf.org.in](http://www.crijaf.org.in)), Barrackpore, West Bengal, India and publishing partner, Puspa Publishing House, Kolkata ([www.pphouse.org](http://www.pphouse.org)).

### 1. The Idea of the Conference, a Secret Saga

The inception of the dream of the conference was not a well organized and steered step; it was like a simple tale and game into mind of Prof Maiti. He wished to have a national conference on the title of the journal, *International Journal of Bio-resource and Stress Management*, a quarterly published (by Puspa Publishing House) journal founded by him. His deciples just tuned and stucked to conduct at International level. That was the journey started with the experienced leaders; and inexperienced and enthusiastic group of young scientists averaging about 35 years. Both Prof Maiti and Prof Humberto are crop physiologists; worked together both in USA, Mexico and India. Their long associations and scientific field of research have helped to brought the concept of the conference that focuses the wider aspects and subject areas to invite scientists all around the World. It is truth, whether we agree or not, our research especially in Indian agriculture has clear focus on the career of a researchers but least bothered about the right cause of the farmers. This in-depth feelings of the Chairman has urged us to provide a real platform for the farmers where scientists, farmers and industry people can share the present needs for the tail-end users; so that scientists

can direct their researches that may benefit farmers in a long run. At the same time, industry people can make ready of them and do future planning.

It feels great to share that conference was started with *Zero* balance in the account. The first circular has been produced with the pocket money. With blessings of the God and willpower of the young team and strong guidance from the experienced stalwarts, the conference gained momentum and overwhelming response from people around the World.

### 2. Concept

The conference aims to bring to light the recent findings and solutions proposed by eminent scientists around the World to the inflation, population growth, climate change and depleting natural resources through bio-resource and stress managements.

Our mother Earth being a centre of origin for many crop plants and rich in biodiversity and endemic species is also unique in having a wide range of ecological conditions which favour diversity of species and genes. However, we are still unable to manage daily food for the burgeoning more than seven billion population in the present World with the fast depleting resources available. Hence our scientific community is duty bound to come up with solutions through sustainable means using modern technology on one hand and ethnic knowledge on the other. India with the history of more than a hundred ethnic tribes is still sustaining on traditional knowledge systems in agriculture, environment and medicine. Where Technology proves to be liable, traditional systems is eco-friendly. As these problems are not just confined locally but encountered globally at varied intensities, it is the time for us to come together and resolve them to find a universally applicable solution.

In view of the present day need for food and nutritional security



under increasing environmental stress, this conference plans to build a team of scientists across the country for transfer of knowledge to the scientists, policy makers and the young budding researchers as well as identify emerging technologies to be applicable for stress management in the context of global climate changing scenario.

The conference widely covers different areas in the following coverage-

#### *Bio-resources*

- Bio-resources, its utilization and processing
- Biodiversity, endangered and endemic species
- Traditional knowledge, primitive innovative technology, unused and under-utilized methods or tools, recovery of ethnic knowledge
- Microbial diversity, pathogenic and beneficial microbes
- Forest ecosystem, eco-management, eco-tourism
- Crop and soil management, Diversification and globalization of agriculture, conservation agriculture
- Bio-monitoring and bio-warning

#### *Climate*

- Climate change; soil, water, environmental pollution as well as atmospheric crisis; population pressure
- Environment education and capacity building

#### *Stress Management*

- Green Technology, Nano-technology, Bio-fortification, Genetic Engineering and Biotechnological tools for bio-resource and stress management
- RS & GIS applications in bio-diversity and landscape management
- Biotic and abiotic stress on plant, microbial lives, its management

#### *Farmers' Meets*

- Lab to land programme for the benefits of the farmers
- Socio-economic issues and livelihood security

### **3. Participants**

It is a matter of praise that 892 participants submitted abstracts for attending the conference, out of which 849 finally requested for registration within the span of almost eight months. The overwhelming response was really unpredictable and enthusiastic. However, only 398 participants were allowed for participation because of limited capacity of booked auditorium and seminar halls. The diverse participants from diverse field of agriculture joined the conference from all over the states of

India. Participants of the conference include scientists from ICAR institutes, faculty and research scholars from central and state Agricultural Universities (SAUs), industry, central and state Govts. across the country. The conference was also attended by number of foreign participants mainly from USA, Mexico, Bangladesh, Iran and Nigeria.

### **4. Technical Conduct of the Conference**

#### *4.1. Inaugural Day, 6<sup>th</sup> February*

The abstracts and full papers received all across are wide and diversified. In the order of the programme, Inaugural function was taken place on 6<sup>th</sup> February at Mini-auditorium, Science city, Kolkata. Prof Debabrata Dasgupta, Former Vice Chancellor, BCKV, Nadia, West Bengal was chaired as Chief Guest and Prof Ashim Chandra Sinha as a Guest of Honour and Dr Deepak Sarkar, Director, NBSS&LUP, Nagpur as a Special Guest.

At the onset, Organizing Secretary, Dr N. C. Sarkar welcomed the participants and audience. Dr Deepak Sarkar has applauded sincere thanks and gratitude to the Chairman and organizers. He stressed the contribution of Prof Maiti in the field of seed physiology and technology. He depicted the role of scientists in managing abiotic stress and related future threats. Director warned about the ingress of salinity and acidity in that makes the productive soil barren and advised the scientists to be cautious to counteract the threats.

Prof Debabrata Dasgupta, Chief Guest of the programme narrated that there is and will be a continuous resource-stress, because by 2030 the World will need at least 50% more food, 45% more energy and 30% more water than today. He pointed out that sustainable goal and evergreen revolutions remain empty unless and until we thought in different dimensions by tackling the resource constraints and adopting appropriate and timely intervention of stress management.

Prof Ashim Chandra Sinha, Vice Chancellor and Guest of Honour of the Programme revealed that the conference will address the vital issues i.e. day to day deterioration bio-resource and its conservation, over-exploitation of natural resources and eroding diversity. He narrated that to feed growing population, agriculture must be intensified to provide more food, also essential to increase the resilience of agriculture by maintaining a wide array of life forms with unique traits such as trees that survive drought conditions and cattle that reproduce in harsh condition.

Prof Ratikanta Maiti, Chairman of the conference welcomed the scientists and researchers all around the World. He revealed

the name of the conference in the name of the journal, *International Journal of Bio-resource and Stress Management*. He revealed that happiest moment of his life come with such glorious achievement in conducting a platform to bring all scientists together. He stressed that drought, heat stress, salinity and other abiotic stresses are adversely affecting crop productivity, thereby threatening the food security of the World. Young scientists are concentrating research on high academic level, molecular etc. but what is the impact direct to the farmers, he questioned? We are not thinking for the poor farmers who are producing the crops under adverse conditions, he scared!! There is significant progresses achieved in understanding physiological, biochemical and molecular mechanisms of resistance to abiotic stresses, but very little attention has been paid in increasing crop productivity under sustainable agriculture. He urged to all young scientists to join together to form inter-disciplinary team to address the two vital aspects firstly, restoration, conservation and recovery of ethnic knowledge of the bio-resource; native plants and animals. Secondly- developing and promoting low cost technology. Biotechnology has come to a significant level, transgenic etc., he cautioned that especially countries like India whether we have capacity to spend so much money? What is the product direct to the farmers? In Asia, USA, Europe and in his experience in South American countries, poor farmers are just striving with their lives but do we really think for them, helping them with simple technology to grow crops under stress conditions??? He calls for a generous support to achieve the goals.

Prof Humberto Gonzalez Rodriguez, Co-chairman of the conference and Professor, UANL, Mexico narrated that importance of bio-resource knowledge is to support to carrier activities aimed to increase biodiversity and its conservation in a sustainable manner for the benefit of the society. Important strategic lines may include protection and conservation of flora and fauna, aquatic to terrestrial ecosystem, species richness and genes, knowledge and information management, biotic and abiotic stress management and transfer and dissemination of knowledge.

The programme has ended with the vote of thanks by Dr N C Sarkar, Organizing Secretary to all esteemed members, people and institutions that have helped to conduct this mega event successfully.

In the special plenary lecture, Dr Atiqur Rahman, University of Chittagong, Bangladesh pointed on the conservation of threatened biodiversity and sustainable management of the environment. Dr Anil C Ghosh, Chairman, B T Pharmacon has

elaborated the importance of native plants; most importantly wild brinjal, *Solanum khasianum* which has the growing medicinal and herbal importance. He emphasised that in India, we lack our interest in conserving the indigenous plants which have high medicinal value.

Mr S. Padmanabhan, Chief General Manager, NABARD, West Bengal Regional Office has pointed out the disaggregated production and lack of proper aggregation of the surplus for transportation and marketing leading to crisis management in present days' agricultural marketing. The farmers can send SMS of their marketable surplus to the intermediary person or company who is coming forward to resolve the problem of agri-marketing.

#### 4.2. Technical Sessions, 7-8<sup>th</sup> February

The technical programme was conducted in three different seminar halls simultaneously. The theme was sub-divided into following technical sessions-

- a. Biodiversity and biogeography
- b. Crop improvement and Genetic Engineering
- c. Crop diversification, soil health and sustainable agriculture
- d. Horticulture
- e. Biotic Stress and management
- f. Abiotic stress and resilient agriculture
- g. LLP, ITks and socio-economic issues
- h. Livestock and aquatic resources management

The sessions were conducted by chairman, co-chairman and convener of the sessions. Both oral and poster sessions have been conducted simultaneously

#### 4.3. Valedictory, 9<sup>th</sup> February

Prof Maiti, Chairman of the Conference cautioned that global warming, drought, salinity, heat stress and other abiotic stress factors associated with ever increasing human populations are affecting greatly on crop productivity and threatening food security globally. Two-thirds of world arable lands are affected by salinity and more than one-third is affected by drought, besides heat stress, flooding, deficiency of nutrients etc., he noted. He stresses that enormous research inputs have been directed to address these problems with reasonable success, but little success has been achieved to transfer the technology to the farmers for their immediate benefits. He also enumerated that we must confront and focus in managing the stress to the plants. He concluded that all these low cost techniques he developed were found to be effective to select pipe line cultivars of different crop species. His simple techniques could be used for further research and as a tool in stress prone areas which may surely

increase the yield under sustainable agriculture.

## 5. Committee

Chairman: Prof R K Maiti, Hony Professor,  
Co-Chairman: Prof Humberto Gonzalez Rodriguez  
Organizing Secretary: Dr N C Sarkar  
Co-organizing Secretary: Dr Samares Das  
Programme Coordinators: Dr Kalipada Pramanik  
Programme Manager: Dr A V Ramanjaneyulu  
Programme Co-manager: Dr Ashok K Thakur  
Programme Facilitator: Dr D P Ray  
Treasurer: Dr Bholanath Mondal  
Web Co-ordinator: Dr Digvijay Singh Dhakre  
Scientific Programme Advisor: Prof Nirmalendu Samajpati  
Scientific Manager: Dr Biswajit Ghosh

### Key Associates

Dr Ashok K Patra, IARI, New Delhi  
Dr. B.R. Jagadeesh, UAS, Bengaluru, Karnataka  
Dr B S Mahapatra, Director, CRIJAF, WB  
Dr Debashish Sen, CAU, Pasighat, Arunachal Pradesh  
Dr Gunindranath Chattopadhyay, Visva-Bharati, West Bengal  
Dr HIRAK Banerjee, BCKV, West Bengal  
Dr Pranab Chatterjee, BCKV, Mohanpur, West Bengal  
Dr Samir Kumar Biswas, CSAUA&T, Kanpur, UP  
Prof T V K Singh, ANGRAU, Hyderabad, Andhra Pradesh  
Dr Tuhin Narayan Roy, UBKV, Pundibari, West Bengal  
Dr V Padmavathi, Sarojini Naidu V Mahavidyalaya, Hyderabad, AP

### International Committee

Dr Adelani Babarinde, Nigeria  
Prof Alok Paul, Bangladesh  
Dr Arvind Kumar Subbaraj, New Zealand  
Dr B N Patra, USA  
Dr Babarinde S A, Nigeria  
Dr Bharat R Sharma, India  
Dr Jorge Isaac Sarquís Ramírez, Mexico  
Mr Marcel Jean Andre, France  
Dr Rahim Foroughbakhch Pournavab, Mexico  
Dr Roque G. Ramirez-Lozano, Mexico  
Dr Samsul Huda, Australia  
Dr Zarha Arzjani, Iran

## 6. Recognition and Awards

In the valedictory function organized on 09<sup>th</sup> February, awards were given to the category of Best oral presentation, Best poster

presentation and distinguished editor of IJBSM (International Journal of Bio-resource and Stress Management, Kolkata).

## 7. Why We are Indifferent?

- First ever international conference on bio-resource and stress management
- Encouraged young and growing scientists, students having excellent research contribution with oral presentation and inspiring them with awards
- Organized by young scientists with average age group of 35 years under the dynamic leadership of 80 years old chairman
- Initiated with zero balance both in monetary and official terms. Finally the fund was raised from registration fees and also limited contributions from NABARD, IFFCO and other small sponsors.
- Organized *Farmers' meet*, which is also unique of its kind where scientists, farmers and industrialists joined together to discuss location specific, problem oriented and demand driven farming aspects for the benefit of farmers. Officials from NABARD, IFFCO, Shakti Biotech, NGOs and scientists from the universities and nearly 100 farmers mostly from different districts of West Bengal participated in the discussions. The main topics discussed were organic farming, ill effects of indiscriminate use of synthetic fertilizers and pesticides.

## 8. Outcome and Future Plan

The conference, first of its kind has brought a uniquely and sole voice to sincerely think over the recovery of ethnic knowledge and conservation of biodiversity. The conference draws to a conclusion that we should put immediate attention to our endangered biodiversity to save our mother earth from genetic erosion.

Our focus of the research should address to the farmers not for the sake of publication. Researchers should look forward to the simple and affordable technique direct to the farmers especially for marginal one. The increasing threats of abiotic stress should be managed judiciously in sustainable manner preferably with the use of low cost technology.

It has been planned to conduct second International conference on Bio-resource and Stress Management in 2015 to review the progress and find out the future strategy. Details of the conference is available at [www.bsmconf.in](http://www.bsmconf.in)



1: Science city (conference site), Kolkata, India



2: Registration desk



3: Welcome to participants



4: Inauguration by lightening of lamp by Chairman, Co-chairman looks into



5: Org. Sec., Chief Guest, Chairman & Chief Guest of Honour (from left)



6: Release of souvenir and abstract



7: Participants



8: Lunch packets distribution



9: Chairman along with few committee members and participants



10: Conference kit distribution



11: Oral presentation



12: Poster presentation



13: Dr Rachel shares during *Farmers' meet* session



14: Best editor of the journal, IJBSM award presentation



15: Best presentation award distributed (for both oral and poster)