

AQUACULTURE SCENE

AQUA AQUARIA INDIA 2015 - Asia's biggest Aquaculture - Aquariculture Show hosted by MPEDA at Vijayawada

The 3rd edition of 'AQUA AQUARIA INDIA', regarded as the Asia's largest aquaculture and ornamental fisheries exhibition, was held from 20th to 22nd February 2015 in Andhra Loyola College Campus at Vijayawada, Andhra Pradesh. The event saw a bigger and better participation of exhibitors and stakeholders than its previous editions. The three day mega event organized by the Marine Products Export Development Authority (MPEDA) projected the recent advances in aquaculture and ornamental fish farming technology for encouraging diversification and promoting intensification in a sustainable



Mr. Nara Chandrababu Naidu, Hon'ble Chief Minister, Andhra Pradesh inaugurates Aqua Aquaria India 2015 by lighting the ceremonial lamp

manner. The event included an exhibition arranged in three separate air conditioned German hangers of total 6300 sq. m. area, accommodating 158 exhibitors in

350 stalls that showcased species varieties, feeds and feed ingredients, advanced production and harvest technologies, equipments and accessories, pest control mechanisms, organic products, processing and packaging systems, service providers, certification agencies etc. in export oriented aquaculture as well as ornamental fisheries sectors. Apart from above, exhibitors from co-operatives, associations, periodicals, financial and insurance services, logistics, pharmaceuticals, Government departments / Organizations also participated in the show. Around 7,700 registered delegates including 6900 pre registered delegates from India and abroad



Ms. Leena Nair IAS, Chairman, MPEDA receives Mr. Nara Chandrababu Naidu, Hon'ble Chief Minister, Andhra Pradesh

attended the event. In addition there were over 5000 visitors including students. The show had separate technical sessions in aquaculture and ornamental fish sectors handled by renowned experts. Detailed information on technical session is also given elsewhere in the feature.

The major sponsors for the show were the Government of Andhra Pradesh, National Bank for Agriculture and Rural Development (NABARD), National Fisheries Development Board (NFDB), Department of Biotechnology, Govt of India, M/s. Avanti feeds, M/s. BMR Exports, State Bank of Travancore, M/s. Vaisakhi Bio Resources Pvt Ltd, M/s. Zeal Aqua Pvt Ltd, M/s. Mayank Aqua Products, M/s. Onaway industries Ltd, and M/s. Vaishnavi Aqua Tech. The main arch was sponsored by M/s. Shrimp



Mr. Nara Chandrababu Naidu, Hon'ble Chief Minister, Andhra Pradesh delivers the inaugural address

Improvement Systems India Pvt Ltd and the lanyards were sponsored by M/s. Wenger, USA.

Inauguration

Mr. Nara Chandrababu Naidu, Hon'ble Chief Minister of Andhra Pradesh inaugurated the event on 20th February 2015 by lighting

the traditional lamp. Ms. Leena Nair IAS, Chairman, MPEDA welcomed the gathering. Mr. Prathipati Pulla Rao, Minister for Agriculture, Agri Processing, Marketing & Warehousing, Animal Husbandry, Dairy Development and Fisheries, Government of Andhra Pradesh was the Chief Guest. The programme was felicitated by eminent personalities such as Mr. Kesini Srinivas, Member of Parliament (MP) from Vijayawada, Mr. Konakalla Narayana Rao, MP from Machilipatnam, Mr. Kollu Ravindra, Minister for Welfare & Empowerment, Handlooms & Excise, Government of Andhra Pradesh, Mr. Devineni Uma Maheswara Rao, Minister for Irrigation, Command Area Development & Water Resources Management, Government of Andhra Pradesh, and Mr. Kamineni Srinivas, Minister for Health and Medical Education, Government of Andhra Pradesh.



Welcome address by Ms. Leena Nair IAS, Chairman, MPEDA

Deputy Speaker of Andhra Pradesh Assembly, MLAs from Krishna district, Mayor of Vijayawada Corporation and Dr. Manmohan Singh, IAS, Principal Secretary, Department of Animal Husbandry and Fisheries, Govt of AP were also present during the inaugural function. The inaugural function was held in a specially constructed inaugural venue that accommodated an audience of about 5,000.

Mr. Nara Chandrababu Naidu in his presidential address welcomed all delegates to Vijayawada, the aquaculture capital of India and exhorted all the concerned departments to work in the direction to make Vijayawada the aquaculture capital of the world in future. Highlighting the nutritive value of fish, the Chief Minister also said that with the state holds vast potential with an opportunity for many times increase in the production in the coming years. And for achieving this, there is additional requirement of hatcheries and farm development. Mr. Naidu has also informed that the Government will examine the proposal to give agriculture status to fisheries, while urging the farmers to adopt the best aquaculture practices to increase the productivity. The Chief Minister also afforded his personal attention for the development of aquaculture in the state. The Chief Minister had later released the Souvenir and

Fair Catalogue of AAI 2015.

Earlier in her welcome address Ms. Leena Nair IAS, Chairman, MPEDA lauded the mission of the Chief Minister to turn Andhra Pradesh to “Swarnandhra” or “Golden Andhra” through blue revolution by considering fisheries as the priority sector and aquaculture as the critical means to achieve this mission.

Chairman MPEDA also gave compliments for the actions taken by Mr. Prathipati Pulla Rao to accomplish the mission. Chairman, MPEDA has informed that aqua farmers are the backbone of marine products export sector, and contributed around 2.5 billion out of 5 billion exports achieved in 2013-14. Ms. Nair also highlighted the technological advances of RGCA, the aquaculture R&D wing of MPEDA. RGCA has translated Prime

Ministers ‘Make in India’ campaign in to reality by producing SPF Tiger shrimp brood stock with indigenous R&D, she added. Representatives of the associations of aquafarmers from different parts of the state, put forth their suggestions to improve Aquaculture in the state Shri Pulla Rao, moderated on the occasion Mr. N Ramesh, Director (Marketing), MPEDA proposed vote of thanks.

MPEDA awards

Mr. Nara Chandrababu Naidu, Chief Minister, Andhra Pradesh also gave away the MPEDA awards for excellence in 14 categories to different aquafarmers, hatchery operators and ornamental fish breeders for their contribution to sustainable aquaculture development, innovation, and export contribution.



Audience in the Inaugural Session of AAI-2015



Mr. Prathipati Pulla Rao, Minister of Fisheries, delivers the address by Chief Guest



Presentation of memento to the Chief Minister, Andhra Pradesh



Releasing AAI 2015 Souvenir, Fair Catalogue & ISMAF proceedings



Vote of thanks by Mr. N Ramesh, Director (M), MPEDA



Dignitaries on the dais

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AWARD WINNERS FOR AQUA – AQUARIA INDIA 2015 IN VARIOUS CATEGORIES

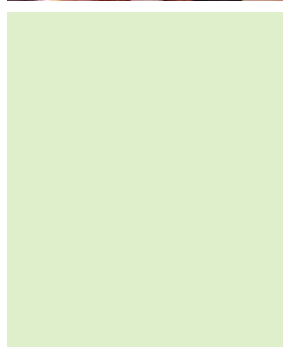
1. Best Tiger shrimp farmer Mr. Viswanadhapalli Venkateswara Rao, Guntur District, Andhra Pradesh
2. Second best Tiger shrimp farmer Mr. K V Rameshan, Kannur District, Kerala
3. Best *L. vannamei* shrimp farmer M/s. Onaway Industries Ltd of Navsari Dist. Gujarat
4. Second best *L. vannamei* shrimp farmer Mr. Arjun Deepak Gadre, M/s ADG Shrimp Farm, Ratnagiri District, Maharashtra
5. Best Mud Crab farmer Mr. T Chennakesava Rao, Krishna District, Andhra Pradesh
6. Second best Mud Crab farmer Mr. T Lankeshwara Rao, Krishna District, Andhra Pradesh
7. Best *L. vannamei* hatchery M/s. BMR Industries Pvt Ltd, Kanchipuram District, Tamil Nadu
8. Best brackish water finfish farmer Mr. George Alexander, M/s. Vattakkattussery Fish Farm, Alappuzha District, Kerala
9. Second best *L. vannamei* hatchery M/s. Sona Shrimps Hatchery, Villupuram District, Tamil Nadu
10. Second best innovative aqua culturist M/s. Bismi Prawn Farms Pvt Ltd, Nagapattinam District, Tamil Nadu
11. Second best farmer from shrimp farming societies Mr. Kollu Venkateswara Rao, M/s. Venkateswara Aqua Farmers Welfare Society, East Godavari District, Andhra Pradesh
12. Best modified extensive shrimp farmer Mr. Subal Kishore Mondal, Purba Midnapur District, West Bengal
13. Second best modified extensive shrimp farmer Mr. Tarun Kanti Pradhan, Purba Midnapur District, West Bengal
14. Second best modified extensive shrimp farmer Mr. Kamal Nayak, 24 South Parganas District, West Bengal
15. Best mussel farmer Mr. P Chandran, Kannur District, Kerala
16. Second best mussel farmer Mr. Shankar Kunder, Udupi District, Karnataka
17. Second best mussel farmer Mrs. Saritha P V, Kasaragod District, Kerala
18. Best ornamental fish breeding unit - large scale Dr. Ashwin Rai and Mr. Ronald D'souza, M/s. Aquatic Bio Systems, Mangalore District, Karnataka
19. Best ornamental fish breeding unit -medium scale Mr. K S George, M/s Angel Fish Farm, Thrissur District, Kerala
20. Best innovative aqua culturist Mr. J Sivagnanam, J S S Aqua farm, Thiruvallur District, Tamil Nadu
21. Second best *L. vannamei* shrimp farmer Mrs. M Asha Priya & others, Prakasham District, Andhra Pradesh
22. Second best brackish water finfish farmer Mr. E V Kabeer, Kannur District, Kerala

23. Best farmer from shrimp farming societies Mr. Viswanadhapalli Venkateswara Rao, M/s. Shri Mathamogadaramma AFWS, Guntur District, Andhra Pradesh

24. Best innovative aqua culturist Dr. Saji Chacko, M/s. Onaway Industries Ltd, Navsari District, Gujarat

25. Second best ornamental fish breeding unit - large scale Mr. Prakash P C, M/s. Rainbow Gardens, Kannur District, Kerala

26. Second best ornamental fish breeding unit - medium scale Mr. Indranil Banerjee, M/s World & Life Farm, North 24 Parganas District, West Bengal



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Inauguration of Exhibition Hall



Chief Minister visiting the stalls



Inauguration of RGCA Hall



Feeding cobia in RGCA hall



Chief Minister in discussion with Chairman, MPEDA



Aquaponics demonstration in RGCA hall

Technical sessions

Separate technical sessions were arranged for aquaculture and for ornamental fishes on first two days of the show. and the. Aquaculture sessions arranged in

Father Devaiah Auditorium had 19 topics under 5 sessions. There were 13 topics under three sessions on ornamental fisheries held in the seminar hall of Andhra Loyola College. Experts from

reputed institutions and establishments in Thailand, Israel, Mexico, Philippines, USA, Belgium, Italy, Malaysia, UK, France, Netherlands, Sri Lanka and also researchers from the



Press conference by Chairman

different research institutions in India handled topics that disseminated vital information on technological advances in the field. Experienced farmers and breeders also handled sessions and shared their field experience with the attendees.

Aquaculture Technical Conference

The Aquaculture Technical Conference had five sessions *viz.*, Culture Technology; Diversification of Aquaculture; Fish health Management and Biosecurity requirements; Aquaculture Nutrition and Certification; Food safety and Marketing issues of Aquaculture. The details of the various technical presentations made by the experts during the sessions are as follows:

Day 1: Session 1 - Culture Technology

The session had 4 presentations focused on some frontier technologies that could help for

the sustainable development of Indian aquaculture. The session was chaired by Dr. M V Gupta, World Food Prize Laureate and Former Assistant Director General, World Fish Centre, Malaysia.

The first presentation was by Dr. Nyan Taw, Technical Consultant, Blue Archeipelago, Berhad, Malaysia on "Better Management Practices for Sustainable Shrimp Farming". Dr. Taw is a well-known aquaculture expert with many years of experience in implementing biosecurity systems on a commercial scale in many countries. He had served as Chief Technical Advisor in FAO projects in Indonesia, Vietnam and Philippines and also as technical counter-part in international aquaculture projects of Japan International Co-operation Agency and Asian Development Bank. In his presentation, Dr. Taw dealt with the better management practices for sustainable shrimp

farming. The presentation briefly explained the major shrimp diseases, biosecure maintenance of broodstock and postlarvae in hatcheries feed and water quality management in culture systems and given more emphasis on the application of Bio-floc Technology and its advantages in aquaculture.

The second presentation was on "Relationship between pond bottom management and water quality in Aquaculture pond" by Dr. Pornlerd Chanratchakool, Technical Manager, Novozymes, Thailand. He has more than 20 years of experience in aquaculture as consultant and pathologist in various countries. In his presentation Dr. Pornlerd explained how the risk of diseases can be reduced by maintaining stable water quality. In a simple way and also with the help of very informative photographs he explained the key points to reduce the risk of mortality such as pond preparation, biosecurity set up in risky areas, preparation of reservoirs, post larvae selection from hatcheries, Vibrio count during culture operations, stocking density and feeding programmes and its adjustment with the change of water quality parameters. He has also explained various nutrient cycles such as Carbon, Nitrogen, Sulphur and the role of various microbes in maintaining the equilibrium of these nutrient cycles.

Glimpses of the event



Glimpses of the event











Glimpses of the event



This presentation was followed by a presentation on "Technology and current Utilization of Recirculation Aquaculture System(RAS)" by Prof. I J Bright Singh, Co-Ordinator, National Centre for Aquatic Animal Health, Cochin University of Science and Technology, Cochin. He has been in the field for 32 years; produced 33 Ph. Ds, has 93 publications in peer reviewed journals. He is actively involved in extending preventive health care services to aquafarmers and is the elected Fellow of National Academy of Agricultural Sciences, New Delhi. In his presentation Dr. Singh explained the global scenario of RAS, factors to be controlled in RAS, process followed in RAS, design parameters for RAS, various RAS designs, key points for effective utilization of RAS, waste removal, oxygen consumption and stocking density in RAS systems. After explaining the general aspects related to various RAS systems he revealed the operation, advantages and the uniqueness of the RAS system developed by the National Centre for Aquatic Animal Health to Indian conditions.

Prof. Yoram Avanimalech is a world renowned scientist from Israel Institute of Technology. During 1989-94, he was nominated to serve as the chief scientist of the Israeli Ministry of Environment. Moreover he is one of the pioneers in Bio Floc technology having practical

experience in application of Bio Floc technology in different parts of the world. Currently, he serves as a board member of the Aquaculture Engineering Society of WAS and heads the working group on Bio Floc Technology. In his presentation titled "Application of Biofloc technology in Aquaculture", Prof. Yoram explained the definition and application of Bio Floc in shrimp farming, farm design and construction for the effective utilization of Bio Floc technology with examples from various countries. Dr. Yoram informed that Bio Flocs will improve the immune system of the rearing animals. It also helps to achieve earlier sexual maturity and higher productivity.

Session 2 - Diversification of Aquaculture

This session was chaired by Dr. E G Silas, Chairman, Scientific Advisory Committee, RGCA and former Vice Chancellor, Kerala Agriculture University and Director (Retd.), CMFRI.

The first presentation was on "Aquaculture of bivalves" by Dr. Sunilkumar Mohammed, Principal Scientist, Central Marine Fisheries Research Institute, Cochin, who has contributed significantly to the growth of commercial bivalve aquaculture in the country. He is also a member of the Technical Advisory Board of the Marine Stewardship Council (MSC), a global non-profit organization

fostering certification and ecolabelling of sustainable seafood. Dr. Sunil presented the history of bivalve aquaculture in India, culture technology, harvesting and post harvest technology, live oyster transportation and oyster value chain development. He also explained the advantages of mussel and oyster farming, its effect in the total seafood production and socio-economics and the major constraints in the production and marketing of bivalves.

The second presentation was on "Hatchery and grow-out culture technology of Mud crab" by Dr. K Ganesh, Project Manager, RGCA- Seabass and Mudcrab hatchery. In his presentation Dr. Ganesh described the technology for the hatchery, nursery and farming of mudcrab, crab fattening, soft shell crab production and the role of MPEDA / RGCA in popularizing the technology in India.

The next presentation in the session was on 'Tilapia-The Aquatic Chicken'. Dr. Umakanth, Consultant, Indian Aquaculture Programme of USSEC made a presentation on the relevance of Tilapia production for India. In his presentation Dr. Umakanth highlighted why global aquaculture industry is behind Tilapia, future of global Tilapia culture and advantages of popularizing Tilapia aquaculture in India. The presentation ended with some thoughts in the minds of all listeners – "Why Tilapia for India".

The last presentation in this session was on “Cobia Aquaculture in Open sea cages” by Mr. Johnson D’cruz , Project Manager, RGCA- Marine Finfish Project. In his presentation, Mr. Johnson described the technology for hatchery and grow-out production of Cobia and the advantages of cobia as a candidate species for sea farming. The role of RGCA in popularizing the open-sea cage farming was also highlighted.

Day 2:

Session 3 - Fish health Management and biosecurity requirements

This session was chaired by Dr. K K Vijayan , Director, Central Institute of Brackish water Aquaculture, Chennai.

The first presentation of this session, “Broodstock and Larval Health Management in Shrimp Hatchery”, was made by Mr. David Antony Leong, President and Director, SIS group of Companies, Florida. Mr. Leong has more than 25 years of hands-on experience in Specific Pathogen Free Broodstock production, maturation, larval rearing, facility design and operational management. His presentation dealt with broodstock and larval health management in the hatchery. Dr. Leong gave detailed information on how to produce good quality seeds, broodstock management and health monitoring, larvae quality

standards and biosecure culture of marine micro algae and artemia and their quality standards. In addition to this, the presentation provided vast information on the general biosecurity procedures required in the hatchery for the production of healthy seeds.

The second presentation in the session was on “Selective Breeding of *Litopenaeus vannamei*” by Dr. Dustin Moss, Director, Shrimp Department, Oceanic Institute, Hawaii. Dr. Moss has worked on and managed several international



Dr. David Antony Leong

research projects and has also served as a Technical Committee Member of the US Marine Shrimp Farming Program. During his 16 year tenure at Oceanic Institute, Dr. Moss has researched many aspects of shrimp aquaculture, but his main research focus has been quantitative genetics and selective breeding of *Litopenaeus vannamei*. His presentation covered topics like history of the selective breeding efforts, misconceptions about breeding, past, current and future structure of SPF breeding programmes. In addition to this, the presentation

provided useful information on challenges with multi trait selection for selective breeding programmes, advantages and disadvantages of inbreeding and structure of the selective breeding programme.

Mr. Steve M Arce, Research Associate, Oceanic Institute of Hawaii Pacific University



Dr. Dustin Moss

presented the next paper entitled “Biosecurity options for disease prevention in *L. vannamei* aquaculture”. Mr. Steve Arce covered key principles and components of biosecurity and how they related to aquaculture and SPF *L. vannamei* shrimp stocks, current shrimp diseases/pathogens of concern, Critical Control Points (CCPs) for the control of *Vibrios* and other potential pathogens in hatchery, pond management strategies which includes pond preparation, BMPs, preventive measures and disease surveillance. The presentation also pointed the national and regional considerations for sustainable shrimp aquaculture in India.

Dr. Patric Lavens, Director, New Business development and Innovations, INVE Technologies, Belgium did the next presentation on “Enhanced Broodstock and Hatchery Nutrition and Health Practices to obtain better PL quality”. Dr. Lavens also served as a Guest Professor in aquaculture at the University of



Mr. Steve Arce

Gent, Belgium, Laboratory of Aquaculture & Artemia Reference Centre. He has authored more than 150 publications in international journals and was the editor of the magazine “Aquaculture Europe” until 2000. In his presentation, Dr. Lavens discussed on how PL quality can be improved through better broodstock nutrition and hatchery techniques, formulations of improved maturation diets, cost effective feeding protocols, replacement of artemia by artificial feeds in hatcheries, microbial management and control of Vibriosis through probiotics, new HSP technology to increase the stress resistance of PLs and also advantages of nursery and raceway systems. In brief, the presentation provided clear information on how every production phase is influencing the next one.



Dr. Patrick Lavens

The fifth and final presentation of the session was on “Challenges in managing Aquatic Animal health in Aquaculture” by Dr. Reantaso Melba, Aquaculture officer, Fisheries and Aquaculture Department, FAO, Rome, Italy. She had worked for FAO since 1997 and led a number of international aquatic disease investigation task forces. Being referee to a number of international journals since 2006, Melba is the Chief Editor of the FAO Aquaculture Newsletter. In her presentation, she portrayed transboundary aquatic animal diseases affecting the aquaculture sector with examples, factors contributing to the current disease situation in aquaculture, economic impacts and investments and existing strategies to minimize the risks of aquatic animal diseases. She also described FAO's response to a number of emerging aquatic diseases facing the aquaculture sector and challenges in managing aquatic animal health. The presentation concluded with some food for thought on core actions on preventive aquatic animal health management and the benefits of improving biosecurity.



Dr. Reantaso Melba

Session 4 - Aquaculture Nutrition

The fourth session was chaired by Dr. B Madhusoodana Kurup, Vice-Chancellor, Kerala University of Fisheries and Ocean Studies (KUFOS).

The first presentation of this session, “Finfish nutrition” was by Mr. Daniel Fegan, Regional Technology Manager for Aquaculture, Cargill Animal Nutrition, Thailand. Mr. Dan was the former President of both the World Aquaculture Society (WAS) and the WAS Asian-Pacific Chapter, of which he was a founding member. He has been involved in commercial aquaculture for over 30 years and during his career he has wide experience in the aquaculture industry from feed, hatchery and farm production. In his presentation, Mr. Dan discussed on the impact of environment on feeding and digestion, nutritional requirements of feeds, amino acid requirements for growth, ideal protein models for aquatic feeds and protein-energy ratio. This presentation reviewed some of the major nutritional requirements of fish and also discussed some of the ways in which feed manufacturers work with



Prof. (Dr.) B Madhusoodana Kurup customers to ensure that their investment in feeds supports a profitable harvest.



Mr. Daniel Fegan

The second presentation was on "Shell fish Nutrition" by Dr. A Victor Suresh, Managing Director, United Research (Singapore) Pvt. Ltd. Dr. Victor Suresh have been in the aquaculture feed sector for the last 18 years, mainly working on feed formulation, processing technology, product development and testing aspects. Dr. Suresh highlighted the nutrient requirement of farmed shrimp, relationship between health and productivity in animal farming, limitations of animal health approaches in aquaculture, essential characteristics of

functional feeds, tools used for analyzing the gut health of shrimps and effect of selective breeding in shrimp nutritional requirements. The presentation



Dr. A Victor Suresh

concluded with a remark that improvements in survival, feed conversion and yields are possible through the use of biomolecules oriented to improve gut health and general immunity, but need to look into economics and innovative methods to deliver these solutions cost effectively.

The third and final presentation in this session was on "Techniques of polychaete production" by Mr. Tony Smith, Managing Director, Dragon feeds, Wales, UK. Polychaetes have gained importance in shrimp reproduction and are identified as a good source of essential nutrients crucial in shrimp reproduction. Through his presentation, Mr. Tony discussed the culture technology and his experience in polychaete farming since 1999. The presentation also deliberated the future that polychaetes have in aquaculture and how it helps to achieve



Mr. Tony Smith

sustainability within shrimp production and also the effect of polychaetes on the taste of shrimp and fin fish.

Session 5 - Certification, food safety and Marketing issues of Aquaculture

The Chairman of the session was Dr. Manmohan Singh, Principal Secretary, DAHD&F, Govt. of Andhra Pradesh.

The first presentation of this session was "Food safety considerations for aquaculture products for sustainable development" by Dr. Herve Lucien Brown. Dr. Brown has 30 years of professional experience



Dr. Manmohan Singh IAS

in aquaculture, processing, quality control and marketing in



Mr. Herve Lucien Brun

more than 50 countries. Dr. Brown started his presentation with a definition to food safety and dictated various aspects in food safety such as tools to ensure food safety, good farming and post harvest practices, hygiene, cleaning and disinfection procedures in food processing, traceability, storage and shelf life and HACCP. The presentation emphasized the need for BMPs and certification programs to address environmental and food safety concerns about shrimp aquaculture farms and also reminded the audience that rules are useless if they are not respected at all times and by everyone.

The second presentation was on



Dr. T D Babu

“Aquaculture Certification” by Dr. T D Babu, BAP auditor for Asia – Pacific region, NSF international, Chennai, which covered aquaculture certification, need for aquaculture certification and its standards. The presentation also reported the extent of certification happened in Indian aquaculture sector.

All the technical sessions were well attended by the farmers, hatchery operators, entrepreneurs, scientists and students, and actively participated ensued discussions. The feedback from the audience on the technical session was positive and encouraging.

Ornamental fish Technical Conference

The technical session of the ornamental fishes for the benefit of the farmers, breeders, beneficiaries and exporter were held at Ganoieene auditorium of Loyola College on 20th and 21st February 2015.

Session 1: Ornamental Fish Marketing – Global trends, Issues and Developments

This session was chaired by Mr.

V K Dey, former Deputy Director, MPEDA and Senior Consultant of ornamental fishes.



Mr. Roberto Henson

The session started with a keynote address on “International Ornamental Fish Marketing” by Mr. Roberto Henson, Secretary General, Ornamental Fish International, The Netherlands. He brought to light the various trends in marketing and showed that Asia is the biggest exporter of the ornamental fishes in the World. It was also brought to light that some of the Asian and European countries that had an upper hand earlier in the export market are losing marginally to other countries which are more specialized in production, and following the demand trends in



Mr. V K Dey



Mr. Kapila Tissera

the world markets.

The second topic was by Mr. Kapila Tissera, Independent Consultant, Sri Lanka who presented on “Sri Lanka - Country Situation and New Developments”. He mentioned about Sri Lankan ornamental fish trade which consisted of fresh water and marine, by volume fresh water fishes consist of 70% of the total exports and marine fishes consist of 30%, but in terms of revenue both generate same amount. The country has a rich environment which is conducive for ornamental fish culture and its major exports are



Mr. Joseph Itzkovich

to USA, UK Germany and Japan. This sector is presently aiming to have a Bio Secure system for ornamental fishes.

The third speaker Mr. Joseph Itzkovich presented “An overview on the ornamental fish industry in Israel”. Mr. Joseph explained that the sector in Israel is presently joined by marine ornamental fishes. The farms in Israel is set up in green houses in the desert, the main varieties which are cultured are live bearers, cichlids, Gouramis and gold fishes.



Dr. Sanjay Joshi

Dr. Sanjay Joshi, Professor, Penn State University, USA presented next about the “Setting-up and husbandry of Reef Aquaria”. Dr. Joshi has also explained some of the economics involved in its setting and equipments required



Dr. S K Das

which are available in open market for monitoring light alkalinity, salinity, synthetic sweater, water flow.

Session 2: Technological advances in Ornamental Fish Sector

This session was chaired by Dr. S K Das, Principal Scientist & Head, ICAR, Meghalaya and the first speaker was Dr. A K Jain, Ornamental Fisheries Training and Research Institute, Udaipur, Rajasthan who spoke on the development of ornamental fish

sector in Rajasthan, its trade, technology transfer at different levels, training, establishment of ornamental fish farms, popularization of ornamental fish keeping as hobby and many more. He also highlighted some of the districts where many business ventures on ornamental fish sector have started and other area of potential.

The second speaker of the Mr. Kapila Tissera of Sri Lanka presented “Commercial farming of high quality guppy males”. Mr. Kapila explained some of the methodologies which are usually applied first to target a production. Then based on the production targets, pool the brood stocks and also decide the pattern of sorting and the tanks in which each stage have to be put for maintaining good health. He also explained some of the feeds to be used for getting best results and also some the bio-security measures required for maintaining continuous production. The third speaker of the day, Mr. Roberto Henson of The Netherlands delivered a talk on “Improving farming practices and profit with adherence to water quality, bio-security and animal welfare”. Later, Mr. Joseph Itzkovich gave a brief lecture on “Culturing methods for the dwarf cichlid: *Microgeophagus ramirezi*”. Afterwards, Dr. Sanjay Joshi handled the topic “lighting of the reef aquarium”, the lecture started with different types of light available in the market and make



Dr. Anna Mercy

the right type of the selection based on the animal and plant requirement and also methods to quantify the same using different types of light meter.

Session 3: Technological advances in Ornamental Fish Sector

The sessions on Technological advances in Ornamental Fish Sector continued in the afternoon and was chaired by Dr. T V Anna Mercy, Professor (Rtd.), KUFOS.

The first speaker of this session was Dr. Aswin Rai, M/s. APR Tropical Fish Pvt. Lt, Mangalore, who gave a brief lecture on the "Problem and Prospects of Indian Ornamental Fisheries – A breeder cum exporter's perspective". Later Mr. Mehmood Syed, M/s. Aquatic World, Mumbai talked about "Packaging and Transportation of Ornamental Fishes for export". The third speaker of this session was Mr. Joseph Itzkovich of Israel. Mr. Joseph delivered a presentation on "The ornamental fish market in Europe -current status and new trends". The last presentation was on "Live feed culture" by Mr. Kripan Sarkar, M/s. Rainbow Aqua Farm, West Bengal, who



Chief guest observing Mangrove mud crab sanctuary inside RGCA hall

explained the topic with lots of videos and some of the live feed photographs. The sessions were coordinated by Dr. Ansar Ali A, Deputy Director, MPEDA Regional Office, Visakhapatnam.

RGCA pavilion attracts crowd

The congregation of farmers and delegates at the Aqua Aquaria India 2015 were provided with a visual treat at the pavilion of The Rajiv Gandhi Centre for Aquaculture (RGCA), the Research & Development arm of the MPEDA. A massive pavilion under a hangar of 30 x 30m size was setup by RGCA to showcase the various activities carried out by the centre in aquaculture technology development and dissemination.

This was a huge deviation from conventional trade shows and fairs as huge tanks and enclosures exactly as in hatchery and farming systems were set up that displayed several species of

large marketable sized finfish and shellfish from RGCA facilities such as Asian Seabass, Tiger Grouper, Orange Spotted Grouper, Cobia, Tilapia, Black Tiger Shrimp, *L. vannamei* etc. Fry, fingerlings and juveniles of the above, as well as Artemia Biomass were also displayed in attractive lighted aquarium tanks. However, the major attraction in the pavilion was the Mangrove Mud Crab sanctuary where RGCA created near natural conditions of the Mangrove Crab habitat. All these enclosures with both saline and freshwater systems were supported by RAS – Recirculation Aquaculture Systems that also was on display with RGCA scientists explaining the operation and the functioning of these high tech systems.

A model of the Aquatic Quarantine Facility displaying receiving area, quarantine cubicle and the quarantine Lab was also set up. Activities of the

NABL accredited Central Aquaculture Pathology Laboratory as well as a miniature version of a Marine Algal Lab with live mass algal cultures was displayed. A set up of an Aquaponics system - growing aquatic animals such as tilapia and plants in an integrated system, with participation from an entrepreneur was also presented and a major attraction at the pavilion. Square shaped HDPE Cages for open water bodies of actual dimensions as well as a model of a circular cage were displayed for the benefit of entrepreneurs and farmers interested in Cage farming. Attractive handouts/pamphlets on RGCA activities and services were also provided to the visitors.

Demonstration classes on Asian Seabass and Mud Crab aquaculture as well as on cage fabrication, installation and sea cage farming were held at the venue from time to time for the benefit of the delegates participating in the event. The RGCA Scampi and Tilapia farm was also the venue for the field trip organized by MPEDA for the benefit of delegates.

Soon after the inauguration ceremony, Mr. Nara Chandra Babu Naidu, Hon'ble Chief Minister of Andhra Pradesh, alongwith other Ministers, MPs as well as several senior officials from the state government visited the RGCA pavilion and spent about an hour there observing with keen interest, each species and aquaculture technology systems displayed, showering appreciation at the effort as well



as information disseminated. Hon'ble Chief Minister talks in the pavillion with Chairman, MPEDA & Principle Secretary (DAHD&F), Dr. Manmohan Singh detailing plan of action for development of Aquaculture in the state

“MACHLIPATNAM”

As was done during AAI 2013, a seafood stall – “MACHLIPATNAM” was set up during this edition of Aqua Aquaria India also. Seafood delicacies in the tastiest Andhra cuisine prepared from fresh farm produce from demonstration and experimental farms of RGCA and served at the stall, attracted large crowds throughout the event. Tilapia was sourced from the RGCA Tilapia Project at Manikonda, Krishna District, Andhra Pradesh, close to Vijayawada. Seabass and Cobia were sourced from the RGCA sea cage farm at Muttom in South Tamil Nadu. The stall also provided takeaway packs and had a frozen fish counter where all these fish varieties were made available in headless, degutted, steak and fillet forms in ½ Kg and

1 Kg frozen packs.

Both the RGCA Pavilion as well as the seafood stall Machlipatnam attracted huge crowds and was one of the major attractions of the event. Several international delegates and speakers who attended AAI 2015 exclaimed that they have never seen an aquaculture show of this kind with real aquatic organisms and technologies on display.

All through the event, crowds thronged around the tanks taking pictures and videos and making the most of such a display by RGCA.

Awards for the Best stalls

On the last day of AAI 2015, awards for the best stalls in the exhibition were given. The awards were announced under three categories, best aquaculture stall under big stall category (stalls above 18 sq. m. area), best aquaculture stall under small stall category (stalls less than 18 sq. m. area) and best ornamental fish stall.



► Award for the best aquaculture stall (Big stall) was won by M/s. Growel Feeds Private Limited, Muninepalli, Krishna district, Andhra Pradesh.



► Award for the second best aquaculture stall (Big stall) went to M/s. ABIS Exports (I) Pvt Ltd, Indamara, Rainandgaon, Chattisgarh.



► Award for the second best aquaculture stall (Small stall) category was won by M/s. B V Bio-Corp Pvt Ltd, Vithalwadi, Pune, Maharashtra.



► Award for the best aquaculture stall (Small stall) was won by M/s. Shenglong Biotech (India) Pvt Ltd, Annanagar East, Chennai, Tamil Nadu.



► Award for the best ornamental fish stall was won by M/s. Marine Aqua World, Vijayawada, Andhra Pradesh.



► Special award given to RGCA pavilion