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Promoting Aquaculture for Sustainable Food Production

UVAS Fisheries and Aquaculture Newsletter

Introduction:

The Department of Fisheries &Aquaculture, UVAS aims to provide excellence in higher education, training, research and development, services and advice in the fields of sustainable Fisheries and Aquaculture consequently contributing to economic and social development of the country .

Mission:

Produce highly skilled professionals in the field of Fisheries and Aquaculture to meet the demand of growing fisheries industry by resolving food and environmental problems.

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UVAS ORGANIZED INTERNATIONAL FISHERIES AND AQUACULTURE CONFERENCE-2019

International Fisheries and Aquaculture Conference -2019, which Slanted on the theme of "Emerging Trends for Sustainable Exploitation of Aquatic Resources". The conference was organized on 30-31st January 2019 at Faletti's Hotel Lahore by Department of Fisheries and Aquaculture, University of Veterinary and Animal Sciences, Lahore (UVAS) in collaboration with Department of Fisheries Punjab, UVAS Fisheries & Aquaculture Society, UVAS-Industry Liaison Working Group on Fisheries & Aquaculture, HEC, PHEC, PSF, COMSTECH, USSEC-ASA Feeding Pakistan, Fish Feed Industry Pakistan and other sponsors. In this event, over 500 renowned national and 20 international fisheries & aquaculture experts, students, professionals, fish farmers, etc., participated from different corners of the World. About 190 abstracts from USA, UK, Mexico, Sri Lanka, Korea, Iran, Turkey, Thailand, China, Indonesia, New Zealand, Croatia, and Pakistan were received and published in Abstracts Book of the conference.

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The event consisted of Inaugural session, plenary session, and 12 technical sessions in two halls (Crystal Hall and Royal Grand) including 02 Fish Farmers /Workshops sessions, poster competition and concluding ceremony. On the sidelines of the conference, an industrial exhibition was organized which was participated by various farming industry groups. Feed mill representatives as well as fish farming implements suppliers/dealers etc. The organizing Committee invited speakers of the selected abstracts to present their oral presentations and 60 Speakers presented oral presentations in various technical sessions. Likewise 48 posters were presented and all authors explained their work explicitly. The Plenary sessions hallmarked the conference and 20 international experts gave an overview of current state of the art and knowledge in various disciplines of Fisheries and aquaculture.

RECOMMENDATIONS OF THE CONFERENCE

After detailed deliberation on various aspects of Fisheries and aquaculture sector following recommendations are made for the development of Fisheries sector in Pakistan.

- ✓ A Fisheries and Aquaculture policy must be approved by the Government to Promote the Fisheries and aquaculture sector at national level with policy guidelines for sustainable development of both fisheries and aquaculture sectors.
- ✓ Provincial Extension services be strengthened and streamlined with capacity building for better service delivery to the fish producers and allied stakeholders. .
- ✓ Diversification of Aquaculture activities through Cage fish culture, Shrimp culture and trout farming and introduction of high value potential fish species in suitable inland and marine water areas of Pakistan be promoted through incentives for adoption of good Aquaculture Practices to make the sector compliant for international trade as well as for quality fish supply for domestic markets.
- ✓ Expansion of fish feed manufacturing industry involving private sector is needed.
- ✓ Develop the cold chain and processing plants with model markets in cluster farming areas.
- ✓ Mass motivation scheme be launched for the enhancement of fish consumption to address the issues of very low per capita consumption and combating malnutrition.
- ✓ Utilize the Barren, water logged and saline public and private lands to make them productive through introduction of appropriate technology for sustainable utilization of these aquatic resources for aquaculture purposes .
- ✓ A national advisory body/ common forum establishment is necessary for prompting concerned institutions to fix priorities of research areas on fisheries and aquaculture and to develop strong linkages.
- ✓ Capacity building of private and public sector for introduction of modern fish culture technology through technical and financial support to augment training opportunities both within and outside country and likewise encouraging professionals and fish growers participation in national and international workshops/seminars/Conferences etc.
- ✓ Online master level courses in fisheries and Aquaculture should be introduced for Academia/Professionals.
- ✓ Introduction of split degree program with international integration for mutual benefits.
- ✓ Establish the saline aquaculture research Centre in southern Punjab to promote the Aquaculture in the potential areas for poverty alleviation and economic uplift, preferably under the umbrella of DOF Punjab. .
- ✓ Up-grade the Inland and marine Training Institutes of FRTI Manawan in Lahore, Punjab and Marine Training Institute Karachi at National level.
- ✓ Both federal and provincial governments Government may consider rationally enhancing the budgetary allocation of funds for development of fisheries and aquaculture in ADP.
- ✓ Strict implementation of Laws to control the aquatic pollution be ensured.
- ✓ Import of live fish and fish seed be regulated and a fish quarantine system, which at present is altogether absent in the country, be put in place on urgent basis to address the issues relating to fish quality, exotic diseases and consumer's health.
- ✓ Rules and Regulations On fish farming, marketing, processing, fish seed and feed production are needed to be updated to meet the quality control criteria and competitiveness for emerging export markets. is necessary for future planning.
- ✓ Selected Universities, especially in those provinces/areas having immense aquaculture development potential should consider establishing the disciplines of fisheries and aquaculture with applied research facilities so as to provide the much needed educated manpower for not only creating job opportunities for youth but also to streamline aquaculture potential on scientific lines .
- ✓ Fisheries and Aquaculture development efforts of Department of Fisheries and Aquaculture UVAS could further be acknowledged by creating pioneering academic facilities at UVAS for the introduction of a new subject of aquatic Environment protection and Climate Change under the eagles of its Department of Fisheries and Aquaculture.

	
Reception of chief guest, Sardar Husnain Bahadar Dreshak at IFAC-2019	*Inauguration of International Fisheries and Aquaculture Conference-2019 by the Chief guest*
	
Chief Guest and the Dignitaries (on stage) at Inaugural Session of IFAC-2019	*Participants of IFAC-2019 standing at National anthem in the Inaugural session*
	
IFAC-2019Welcome address of Prof. Dr. Talat Naseer Pasha (SI) at IFAC-2019	*Participants of IFAC-2019 at inaugural session*

	
Address of Cap(R) Muhammad Asif (Secretory, Department of Forestry, Wildlife and Fisheries, GOP) at inaugural session	*Poster competition at IFAC-2019*
	
Group photo of participants at gala night of IFAC-2019 at UVAS	*Cultural Dances on gala night of IFAC-2019*
	
Group photo of dignitaries wearing traditional caps presented by Director Fisheries Gilgit Baltistan	*Cultural show during Gala Night of IFAC-2019 at UVAS*

UVAS PROFESSOR VISIT ATATURK UNIVERSITY, ERZURUM, TURKEY

Dr. Noor Khan, Associate Professor/Chairman Department of Fisheries & Aquaculture, UVAS visited Faculty of Fisheries, Ataturk University, Erzurum, Turkey from 3rd November, 2018 to 18th November, 2018 under Mevlana Exchange Programme. Dr. Khan delivered 04 lectures to postgraduate students and faculty of the Faculty of Fisheries, Ataturk University Erzurum. Prof. Dr. Murat Arslan, Dean Faculty of Fisheries, Ataturk University arranged meetings of Dr. Khan with Rector, Vice Rector, Director International Affairs, Dean Veterinary Sciences and Faculty of Fisheries to discuss the opportunities of joint research, joint degree programmes and extension of this collaboration to other disciplines of Veterinary Sciences. Prof. Murat, Dr. Khan and postgraduate students of the Department of Fisheries & Aquaculture UVAS who conducting part of their research under Mevlana Exchange Programme at Ataturk University also visited Central Fisheries Research Institute (CFRI), Trabzon on Black Sea coast and had a meeting with Dr. Mustafa, Director CFRI who showed them their research facilities and state of the art Laboratories.

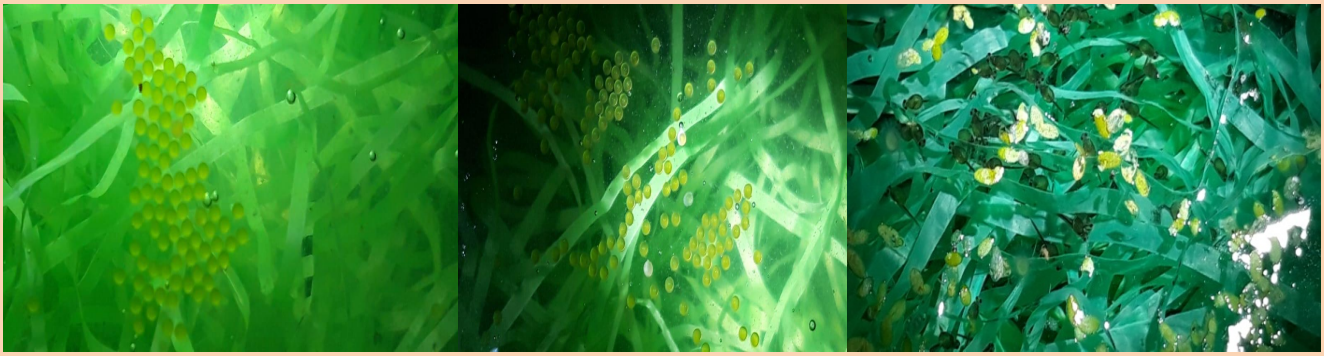
DR. KHAN ATTENDED INTERNATIONAL CONFERENCE AND EXPOSITION 2019 AT NEW ORLEANS, LOUISIANA, USA

Dr. Noor Khan, Associate Professor, Department of Fisheries & Aquaculture, UVAS attended 5-day International conference and Exposition titled “Aquaculture 2019, with the theme “Aquaculture-The Big Easy Choice” at New Orleans, Louisiana, USA from 07-03-2019 to 11-03-2019. Dr. Khan presented a paper titled “Effect of substituting soybean meal with Moringa oleifera meal on the growth, body composition liver and gut health of Labeo rohita fingerlings”. During this conference Dr. Khan also discussed the possibility of holding next Aquaculture Conference 2021 at Pakistan jointly by World Aquaculture Society, World Aquaculture Society-Asia Pacific Chapter with General Secretary WAS, President WAS and Coordinator WAS-APC.

SUCCESSFUL BREEDING OF CHANNA SPP- A REVOLUTION IN PAKISTAN FISH INDUSTRY

The current world population of 7.2 billion is projected to increase by 1 billion over the next 12 years and reach 9.6 billion by 2050 (UNFAO 2014). With this steadily rising population pressure on the earth’s resources, as well as its political systems, social structures, and food production alternatives, there are many challenges to reaching the goal of a sustainable planet. Two of the most important challenges are sufficient food and sufficient energy; both from sustainable sources. The freshwater fisheries and aquaculture have a significant role in providing animal protein to day by day increasing population. In Pakistan, out of more than 200 freshwater species only few species are cultured since 1960s.

Channa is a group of freshwater fishes and are more popularly known as snakehead Murrels due to its head resemblance to that of a snake. The distribution of this group is widespread in the tropics and originates from Africa, South East Asia and East Asia. About 3 species of Channa (Channa marulius, Channa striatus and Channa punctatus) are found in Pakistan. These strains of Channa are highly resistant to temperature and disease, surviving even in muddy water. Unfortunately, no attention has been paid to practice their culturing, breeding and conservation in Pakistan. Department of Fisheries & Aquaculture, University of Veterinary and Animal Sciences, Lahore-Pakistan (UVAS) is running PARB funded research project in collaboration with the Department of Fisheries Punjab on “Interactive Effects of Manipulated Artificial Feeds on Growth and Breeding Potential of *Channa spp*”.



The Project Manager Dr. Noor Khan, Chairman Department of Fisheries and Aquaculture, UVAS and collaborating scientist Malik Muhammad Ramzan, Deputy Director/Team Leader Chashma Fish Biodiversity Hatchery, Department of Fisheries Punjab went to Thailand for one month training learn techniques of *Channa* species breeding and weaning in 2018. After successful completion of hands-on-training on breeding and weaning of *Channa striata* the trainees Dr. Khan and Mr. Ramzan successfully conducted a breeding trial on *Channa marulius* species through induced breeding by injecting synthetic hormones to experimental fish in captivity at Fish Biodiversity Hatchery, Chashma, District Mianwali. This is a ground breaking achievement not only for UVAS and Department of Fisheries Punjab, but also for whole fisheries sector and fish farmers in Pakistan.

ECONOMIC PROTAGONIST OF FISHERIES IN THE NATIONAL ECONOMY OF PAKISTAN

Junaid Wattoo, Shahnaz Rashid

Fisheries assets are dynamic in Pakistan. Fish and shell fish are a source of cheap and valuable animal protein for the people, and the industry has influence in the economy of Pakistan and a good source of foreign exchange. Imports of fish are insignificant, however the worth of exports of fishery products was about USD 450 million in 2017. It contributes only 0.3 per cent to overall Gross Domestic Product (GDP), 1.3 per cent to Agriculture GDP and less than 1 per cent to national employment. The fisheries sector provides employment opportunities to an estimated 1.0 million individual fishermen, family members and related fishery workers, thereby providing direct support to nearly 6.0 million citizens throughout the country. In some rural areas, particularly in Sindh and Baluchistan, where very limited sources of income are available, fisheries development has contributed significantly to livelihoods. Aquaculture is also seen as a means of filling an expected future gap between supply and demand for fish. If coastal aquaculture of high value shrimp and finfish species is developed, export earnings will rise.

The Pakistani seafood industry is primarily export-oriented and mostly governed by the requirements of the exporter. The performance of the export division has been appreciable and export earnings have increased noticeably since the independence. In 1947 only salt dried products were exported from Pakistan, but now high-grade frozen seafood products as well as live marine animals are exported. There is no doubt about the potential for increased seafood exports, but post-harvest fatalities are a major constraint to the expansion of the fisheries sector. In the 1970s, dried fish products were the major commodity exported by the fisheries sector. It was sold mostly to Sri Lanka. Subsequently, frozen fishery products became the important export commodity. Frozen fishery products are now exported to about 65 countries. Most important importers of frozen fish and shell fish from Pakistan are China, Malaysia, Hong Kong (SAR), Thailand, EU countries and USA. Export of chilled fishery products has increased significantly in the last five years. These are purchased by Gulf countries and by Singapore. Live lobster and crabs are exported to China, Singapore, Malaysia, etc. In 2017, overall fishery exports were 155,000 tonnes (product weight) valued at USD 450 million. Primarily exports comprise frozen fish, frozen shrimps, lobsters and crabs, dried fish and mollusks. Only a small quantity of fishmeal was exported. Shrimp was the leading export item. It was exported as freshly frozen, whichever shell-on tails or as peeled product. Shrimp canning finished in 1983, and has been replaced by freshly frozen crab meat, which is exported to USA. Fishmeal and shark fins are also exported. It is clear that the high annual proportion of increase in production is not due to increases in labor force size but slightly to more efficient fishing and greater market demand (to supply fishmeal factories in particular). A high proportion of those employed are women working in shrimp processing plants (sorting and peeling). Women also constitute most of the labour force involved in net repair. It is clear that, given the sluggish rate of new job creation in the primary sector and probably future need for considerable labour in marketing and distribution, the greatest potential for generating new jobs will be in the secondary sector.

UVAS POSTGRADUATE STUDENTS VISITED ATATURK UNIVERSITY, ERZURUM, TURKEY

Two M.Phil students Ms. Sadaf Dogar and Ms. Tahreem Iqbal from the Department of Fisheries and Aquaculture, University of Veterinary and Animal Sciences visited Faculty of Fisheries Ataturk University, Turkey under Mevlana Exchange Program for a period of four months. They took their preserved samples and performed fatty acid analysis of liver and muscles of GMT (Genetically Male Tilapia) under the supervision of Prof. Dr. Murat Arslan (Dean Faculty of Fisheries). After completing the lab work, they discussed their results with Prof. Murat. They also gave presentations in a seminar on title “Aquaponics – Innovative Farming” and “The worldwide acceptance of Tilapia and its impacts on Economy and Environment” respectively. They visited their high tech laboratories DAYTAM and Central Fisheries Research Institute (CFRI), Trabzon on Black Sea coast, along with Dr. Noor khan and Prof. Dr. Murat Arslan. Such exchange programs provide opportunities and will open up ways for faculty and students between Pakistan and Turkey to promote research activities in future.

AQUACULTURE EVENTS IN APRIL, 2019

Apr 24, 2019 - Apr 29, 2019
The 22nd International Pectinid Workshop will be held in Santiago de Compostela, Galicia, Spain from April, 24th to 29th, 2019 in “Hospedería San Mart
Location: Santiago de Compostela, Galicia, Spain
Call for Abstracts - the deadline to submit an abstract is January 15, 2019. The International Pectinid Workshop has been a biennial event on the calendar of marine researchers from all over the world since 1976. The workshop is dedicated to the dissemination of knowledge concerning the scallop species of the world.

Apr 28, 2019 - May 3, 2019
23rd International Seaweed Symposium
Location: International Convention Center Jeju (ICC Jeju), Jeju, Korea
“Seaweeds: from Tradition to Innovation” The 23rd International Seaweed Symposium will convene April 28 - May 3, 2019 in Jeju Island, South Korea. The Symposium will follow the traditional program, with a mix of plenary talks, symposia devoted to particular topics, sessions of contributed papers, and poster sessions. Diverse topics of symposia and sessions will include, but not limited to taxonomy, biodiversity, ecology, climate change, genomics, seaweed aquaculture, industrialization, and cutting-edge technologies for medicine, cosmetics, and biofuel developments.