

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 Professor & Industry Partner/Project team Visit to University of Aberdeen, UK
- ✓ Department of Fisheries and Aquaculture (UVAS) Professor Visited AtaTurk University, Erzurum Turkey under the Mevlana Academic Exchange Program
- ✓ Fish Harvest and Markets
- ✓ UVAS-Industry Liaison working group meeting to discuss various issues on aquaculture
- ✓ Two Day Workshop on Water Initiative South Asia (WISA) Kathmandu, Nepal, 21-22 November, 2017
- ✓ Thai entrepreneurs keen on importing fish from Pakistan

UVAS ORGANIZED ONE DAY SEMINAR ON WORLD FISHERIES DAY, 2017 WITH THE THEME "WISE OCEANS".



Department of Fisheries an Aquaculture, University of Veterinary and Animal Sciences, organized awareness walk on World Fisheries Day, 2017 in collaboration with UVAS Fisheries and Aquaculture Society, HEC-BC-KEP, project FEEDing Pakistan program of American Soybean Association (ASA)/WISHH. The objective of the event was to draw attention towards issues of fisheries and fish industry in Pakistan, including overfishing and habitat destruction. A large number of students, faculty members, students, researchers and staff participated in the walk and see the fishing activity

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PUNJAB FISHERIES ORGANIZED A FIELD WORKSHOP ON 21ST NOVEMBER A FISH DAY, ENTITLED “CAGE CULTURE TECHNOLOGY IN POTHAR REGION FOR HARVESTING DEMONSTRATION AT DHOK TALIAN DAM DISTRICT CHAKWAL

A field workshop was conducted on November, 21st, 2017 on fish day. "Cage culture technology in Pothar region for harvesting demonstration at Dhok Talian Dam District Chakwal. Director General Department of Fisheries Punjab, Mr. Iftikhar Ahmed Qureshi motivate the fish farmers to pay focus on cage culture as it is highly profitable business. Pakistan has a lot of resources in the form of dam, rivers and lakes etc. It can be utilized by the culturing the fish in cages for sustainable livelihood for the poor, landless and flood victims areas. Cage fish aquaculture is relatively a new technology developed in many countries of the world. Highest development and production of cage fish culture has taken place in other countries where demand for nutritional protein is high due to an expanding population base.



Source: Puniab Fisheries



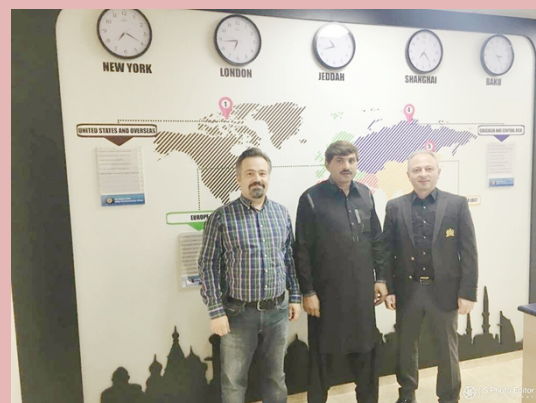
UVAS PROFESSOR & INDUSTRY PARTNER/PROJECT TEAM VISIT TO UNIVERSITY OF ABERDEEN, UK

Dr. Noor Khan Associate Professor/Principal Investigator, Dr. Atif Yaqub Associate Professor, nominee of Prof. Dr. M. Sharif Mughal (Late) Co-PI GCU, Lahore and Mr. Umar Aslam Awan, CEO, Oryza Organics, Pvt. Ltd. industry partner visited University of Aberdeen, UK under HEC-BC KEP (Knowledge Economy Partnership) Project from 21-08-2017 to 05-09-2017. During their visit they visited intensive fish culture facilities, fish immunology laboratory, zoological museum and Aberdeen Medical Centre. The team discussed project activities, joint research trials and future planning of existing and proposed project with UK, Link Partners. During this visit team interacted with various scientists and industry people and discussed possibilities of future research collaboration.



DEPARTMENT OF FISHERIES AND AQUACULTURE (UVAS) PROFESSOR VISITED ATATURK UNIVERSITY, ERZURUM TURKEY UNDER THE MEVLANA ACADEMIC EXCHANGE PROGRAM

Dr. Fayyaz Rasool, Assistant Professor, Department of Fisheries & Aquaculture visited Faculty of Fisheries, AtaTurk University Erzurum, Turkey from 01-15 October, 2017 under the Mevlana Academic Exchange Program. During his stay, Dr. Fayyaz, delivered a series of seminars at the AtaTurk University on topics; Prospects of Pakistan in the Fisheries & Aquaculture, Cultureable Fish Species in Aquaculture of Pakistan, Role of Public & Private Sector in Improvement of the Fisheries & Aquaculture of Pakistan and Fish Feed Types and Establishment of the Feed Industry in Pakistan. During his stay he visited office of the Vice Rector of the International Affairs, Directorate of International Affairs and other offices at AtaTurk University related to develop future collaborations in the field of Fisheries & Aquaculture at International level.



FISH HARVEST AND MARKETS

By Dr. Zahid Yaqoob

Scope

The report focuses on the fish markets for the inland catch only i.e. Aquaculture and fish catch in the natural waters of lakes and rivers and do not touch the marine fisheries sector for which the fish harbors function under the Marine Fisheries Department of the Mo Ports and Shipping.

Overview

Inland fish catch (fisheries & aquaculture) was well over 200,000 tons during 2013-14 (Provincial Development Statistics-Punjab & KPK). Major catch is coming from aquaculture while the catch from rivers, lakes and other water bodies is gradually diminishing due to water pollution and unauthorized fishing etc. Aquaculture for the warm water species is growing fast in Punjab and Sindh and the cold water species (Trout) in KPK and GB. Growth in Aquaculture is mainly due to large number of fish hatcheries in the private sector, availability of commercial feed, farmer awareness on water quality and farm management etc. Aquaculture

1-Fish Breeding and Culture Period

Around 98% of fish species in Pakistan are warm water (except Trout), the breeding and culture is therefore, most suitable in the water temperature of mid to late twenties (centigrade). Most commonly cultured species are Carps i.e. Indian major Carp (Rohu, Catla-Catla (Thaili) and Mori) and the Chinese Carp (Grass Carp and Silver Carp).

Table: Harvesting Trends in Punjab

Month	Harvest %
Oct-Nov	20
Dec-Feb	70
March-April	10

After the fish breeding (May-August), nursing of hatchlings to fingerlings and Juveniles continues during August-February, followed by stocking in grow-out ponds in March. Around seven months of culture period takes the fish to a harvest size by the late October.

2-Harvest Practices at Fish Farms

2.1-Harvest Planning

Majority of the farmers in Punjab start harvesting by the late October (few farmers undertake thinning i.e. partial harvest in August to allow the remaining stock sufficient space for fast growth). Harvest in the natural waters starts in August. Harvest planning usually has following considerations;

- Cash flow constraints: Farmers undertake partial harvest in October-early November to retire their immediate debts.
- Fish Price: As the winter progresses, fish prices start increasing with fish consumption and demand. Maximum harvest is therefore in the months of Dec-Feb.
- Pond Preparation: Farmers want to empty their ponds by the mid to late February, for the drying, dressing and preparation of ponds for the next crop by the mid-March.

2.2-Harvest Practices

Harvest is manual through nets. Fish catch is filled in the PP bags and is brought to a common area where all the catch of the day is spread on grass or a plastic sheet. Fish is degutted (removal of intestine and viscera), followed by loading on the pickup or a small truck. Floor of the truck is covered by the crushed ice followed by a top ice layer. Harvest day and size is planned in coordination with the Mandi Arthi's in advance. It is usually 40-50 mounds per load. Fish is not graded by size or species at the farm. Generally, it takes minimum of 7-8 hours for the fish to reach to the major mundi's of Lahore, Gujranwala, Faisalabad and Rawalpindi (from Multan, DG Khan Division clusters). Minimum of 6-8 hours would be required to complete the harvest process.

On harvest, fish is not exposed to fresh water to remove any mucous and dirt and the preparation is done in the open, with no consideration to cleanliness, hygiene and contamination. There is no practice of letting the fish to die naturally (actually asphyxiated), such as exposure to cold water for slow death to prolong the shelf life. Presence of blood in the circulatory system affects the quality of flesh and the meat aroma and taste. This facilitates the microbial activity and fish deterioration.

3-Activities at Mundi

Upon arrival, fish is sorted out according to varieties and weight. All the graded fish is covered by crushed ice and stored in the open on concrete floor. Following price mechanism is observed;

- Generally, the undersized fish (up to 1 kg) is offered for open auction, while the fish categories of 1kg, 1.5-2kg, 2.5kg and above are offered at a market price of the day (price is mutually agreed by all the Arthis). Undersized fish is auctioned according to size bands.
- Usually the large buyers (fryers and restaurants), place their daily orders in advance which runs into hundreds of kgs per customer. Arthi's generally charge 10% commission from the buyers.



Fish suppliers are not charged any commission. At times Arthi's offer discount in commission to the buyers. None of the mundi's have cold storages and usually 70% of daily stocks are disposed of the same day. The left over stock is covered with ice for sale on the next day. Rotten fish has its own customers and prices. Nothing goes waste. Fish buyers pack their stock in their own bags (with or without ice). In many cases, buyers just throw fish on pick up floor or a riksha without ice (depending upon the distance). Payment to the fish suppliers is either in cash or credit of 7-10 days. Few Arthi's offer money to the suppliers for the next crop which covers some of the input cost i.e. fertilizers and feed. This practice is getting weaker with time, as mundi's now find sufficient stock and rather prefer offering some price incentive to the large customers. Mundi's normally start operating in August and continue operations until the start of May. Major activity however, is witnessed in Nov-Feb. Mundi's open at 4am and finish their work by the late mornings.

4-Regulatory Environment

Punjab Fisheries Department has been authorized to conserve the biodiversity, promote fisheries and manage the natural waters through the Punjab Fisheries Ordinance 1961. No changes have since been made despite diminishing role of fisheries and higher role attained by aquaculture over the years. None of the activities of aquaculture are regulated by the Fisheries Department i.e. fish breeding, culture harvest, packaging, transportation, storage, marketing and sales. Therefore, no standards have been framed so far on farm hygiene, harvest practices, fish health, disease and quality and fish handling, cleanliness and hygiene of markets.

Fish markets are unregulated and anybody can establish the market anywhere in any city or town. There is no requirement of any permission from any department. Lahore market remains Punjab's largest with average daily handling of over 200 tons of fish in the peak season (around 100 truckloads of 50 mounds daily). It is not licensed by the Municipality or any other department of Lahore Administration nor by the Health or the Fisheries Departments. Markets have neither cold storages, nor the arrangements for the disposal of waste and are free to sell rotten or diseased fish with no restrictions on the buyers for packaging and transportation. One could see Fish markets sprouting up close to almost every fish farming cluster in Punjab. Same is valid for other provinces. However, Trout is not offered through markets, because of small farm output. Most of the Trout farmers operate riverside restaurants; a sale point as well.

Rather than the Government taking cognizance of poor state of affairs in the fish markets, mundi owners have approached the government time and again for the allocation of space for the fish markets outside the city premises, in view of congestion and increasing business volume.

Due to the worst hygiene and cleanliness situation and poor fish handling, major retail chains (Metro, Hyperstar etc) do not buy fish from the markets and have invested in training their suppliers (usually farmers) on supply chain for the quality and health.

5-Policy Recommendations

Forward linkages of fish farming includes the harvesting (on farm operations such as fish catching, handling and holding, cleaning, bleeding, gutting, packaging and transportation) and marketing (transportation, sorting, grading, storage and safe disposal of waste at mundis) are the most neglected and unregulated activities, posing serious threats to consumer health and safety, environment and farm sustainability.

- Fisheries Department may start creating awareness through farmer education and training on safe harvesting and fish handling techniques. This may be followed by third party certifications of fish farms and mundis (voluntary certification initially and mandatory after few years). Expertise and support of international organizations such as FAO would be of great help in this regard.
- Only certified farms may be declared eligible for any incentives offered by the government for the fish farming sector.
- Punjab Fisheries Ordinance of 1961 needs broad based changes in view of fast emerging aquaculture sector and to address the challenges of most unhygienic fish harvesting, handling, storage, transportation and marketing which are so detrimental to the consumer health and safety and environment integrity. This will improve the farming practices as well which are so critical for exports.
- Fish markets (mundis) may be licensed by the District Governments with strict controls on hygiene, fish health, cleanliness and safety. Fisheries Department may be trained and equipped to enforce the regulations in all the mundis irrespective of size and location.



UVAS-INDUSTRY LIAISON WORKING GROUP MEETING TO DISCUSS VARIOUS ISSUES ON AQUACULTURE

A meeting of UVAS Industry Liaison Working Group of Fisheries & Aquaculture was held on 14-09-2017 at Department of Fisheries and Aquaculture, University of Veterinary and Animal Sciences, Ravi Campus. All members of the working group attended this meeting. The main agenda of the meeting was the post symposium review and future planning, current situation of aquaculture in Pakistan constraints and opportunities, joint research program/project under Technology Development Funds (TDF) and University-Industry linkages, capacity building of the farmers through trainings/workshops and its policy and revision of the members of editorial board for newsletter, and improvement. Director general Punjab Fisheries Department. Fisheries Society, Pakistan Fisheries Development Board, Oryza Organics, Feed, Pvt. Ltd., AMG Feed, Pvt. Ltd., ASA/SoyPak, Umer Fisheries, Pvt. Ltd. Multan, Royal Fisheries, Pvt. Ltd. Supreme Feeds, and Tawakal Fish Hatchery, Pvt. Ltd. were attend the meeting.

UVAS ORGANIZED ONE DAY SEMINAR ON WORLD FISHERIES DAY, 2017 WITH THE THEME “WISE OCEANS”.

Department of Fisheries & Aquaculture, University of Veterinary and Animal Sciences, organized one day seminar on World Fisheries Day, 2017 with the theme “Wise Oceans”. This day was established to draw attention to overfishing, habitat destruction and other serious threats to the sustainability of marine and freshwater resources. Fishing activity was arranged and various fish species were harvested in the presences of worthy Vice Chancellor UVAS, fish farmers, fish feed mill owners & public sector representatives. A walk was organized from main gate to Academic Block, C-Block, UVAS, Ravi Campus, to enlighten the importance of Fisheries sector. Worthy Vice Chancellor, Prof. Dr. Talat Naseer Pasha, UVAS chaired the inaugural session of one day seminar organized under UVAS Fisheries and Aquaculture Society, HEC-BC-KEP, FEEDing Pakistan program of American Soybean Association (ASA)/WISHH, on the World Fisheries Day. Prof. Dr. Talat Naseer Pasha, while addressing the session consisting on leading progressive fish farmers, feed industry owners and academia personals, suppresses the collaborative efforts for the progress of the Fisheries and Aquaculture sector. Various speakers highlighted the importance of Sector and way for its progress. At this occasion the students of different degree programs presented various fish processing and value added fish products.



Dr. Noor Khan, Associate Professor/Chairman, Department of Fisheries & Aquaculture, Ms Hajira Khan, Project Manager, British Council, Lahore Pakistan, Mr. Basharat Ahmad Saeed and Ms Samar Minallah, from Leadership for Environment and Development (Lead) Pakistan attended two day Water Initiative South Asia (WISA) workshop organized by British Council and Imperial College London jointly at Kathmandu, Nepal from 21-22 November, 2017. About 40 participants from UK, Turkey, Iran, Afghanistan, Pakistan, India, Nepal, Bangladesh and Sri Lanka participated. The event brought together water scientists and policy-makers to discuss key issues, such as access to safe water and sanitation, water scarcities and regional collaboration, and conflict in South Asia. The forum aimed to identify major water resource challenges in South Asia and opportunities for international collaboration to solve water problems, promote research in the area of water and water resource management, help bridge the gap between water management science and policy, and to develop an international network of professionals. The discussions highlighted potential contributions by UK researchers and affiliated international entities and needs and demands for capacity development of trainers at regional level.

TWO DAY WORKSHOP ON WATER INITIATIVE SOUTH ASIA (WISA) KATHMANDU, NEPAL, 21-22 NOVEMBER, 2017



Thailand has sent their 17 member delegation of seafood importers to Pakistan in an attempt to look for more business opportunities between Pakistani and Thai fishermen. According to Trade Development Authority (TDAP), the importers from Thailand will be primarily looking to explore opportunities of seafood exports from Pakistan. TDAP has invited them and has also organized this visit. During the visit, Thai importers participated in the opening session of an event where the DG Marine Fishing Department gave a detailed presentation on fishing laws and fishing industry of Pakistan. After the presentation, a session was organized between the delegates with their Pakistani counterparts, in which large number of local exporting companies also participated. In 2015-16, Pakistan exported USD 107 million worth of products to Thailand out of which USD 46.82 million comprised of seafood products. There is a huge potential for export of fish and other seafood products from Pakistan. There will be more joint ventures between Pakistani and Thai companies in the fisheries sector.

THAI ENTREPRENEURS KEEN ON IMPORTING FISH FROM PAKISTAN



Mubarak remains the second largest fishing village in Karachi, Pakistan. (Photo: Mohib Baig/CC BY-SA 4.0)
Source: FiS -Fish Information and Services

WORLD FISHERIES DAY, 2017 HIGHLIGHTS





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