ASD GOVT. DEGREE COLLEGE FOR WOMEN (A)

(Re- Accredited by NAAC with B Grade)

Jagannaickpur, Kakinada, East Godavari, AP

DEPARTMENT OF ZOOLOGY & AQUACULTURE TECHNOLOGY

2021-2022

Guest lecture

by

Dr. P. Gopi, FDO, SIFT

on

TOPIC: Recent Trends and Future Scope of Aquaculture

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Jagannaickpur, Kakinada - 533002, East Godavari, AP.

Guest Lecture Register 2021-2022

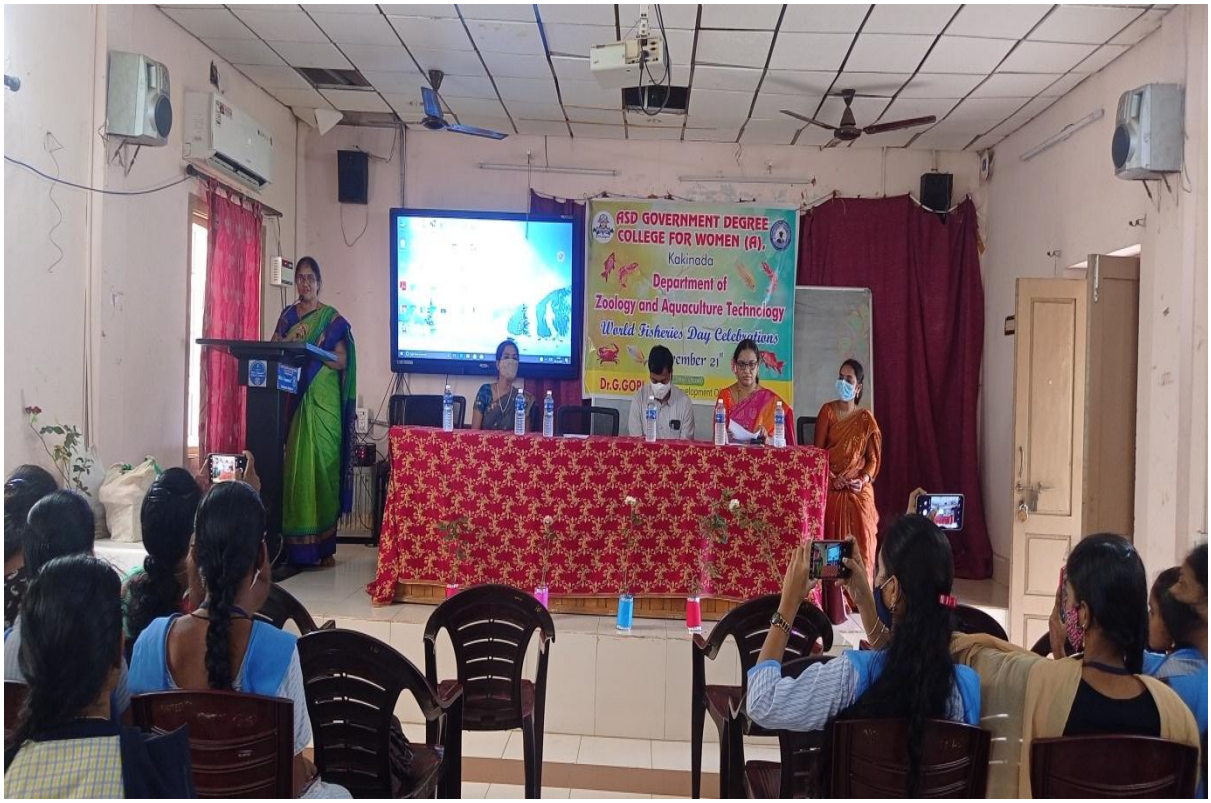
Date	20/11/2022
Conducted through (DRC/JKC/NCC/NSS/Department)	**Department of Zoology and Aquaculture Technology**
Nature of Activity (Seminar/Workshop/Extn. Lecturer etc.)	**Guest lecture**
Title of the Activity	**Recent Trends and Future Scope of Aquaculture**
Name of the Department/Committee	**Department of Zoology and Aquaculture Technology**
Details of Resource Persons (Name. Designation, etc.)	**Dr. P. Gopi, Fisheries Development Officer in the Water & Soil Analysis lab, SIFT**
No. of Students Participated	**96**
Brief Report on the Activity	**Students can acquired the knowledge of current researches on going in the field of Aquaculture**
Name of the Lecturers who Planned & Conducted the Activity	**M. Vasantha lakshmi** **HOD in Zoology** **S. Madhavi** **Lecturer in Zoology** **N. Veera Chanti Guest Faculty in Aquaculture Technology**
Signature of the in Charge	20/11/2022
Signature of the Principal	
Remarks	

ASD GOVT DEGREE COLLEGE FOR WOMEN (A), KAKINADA

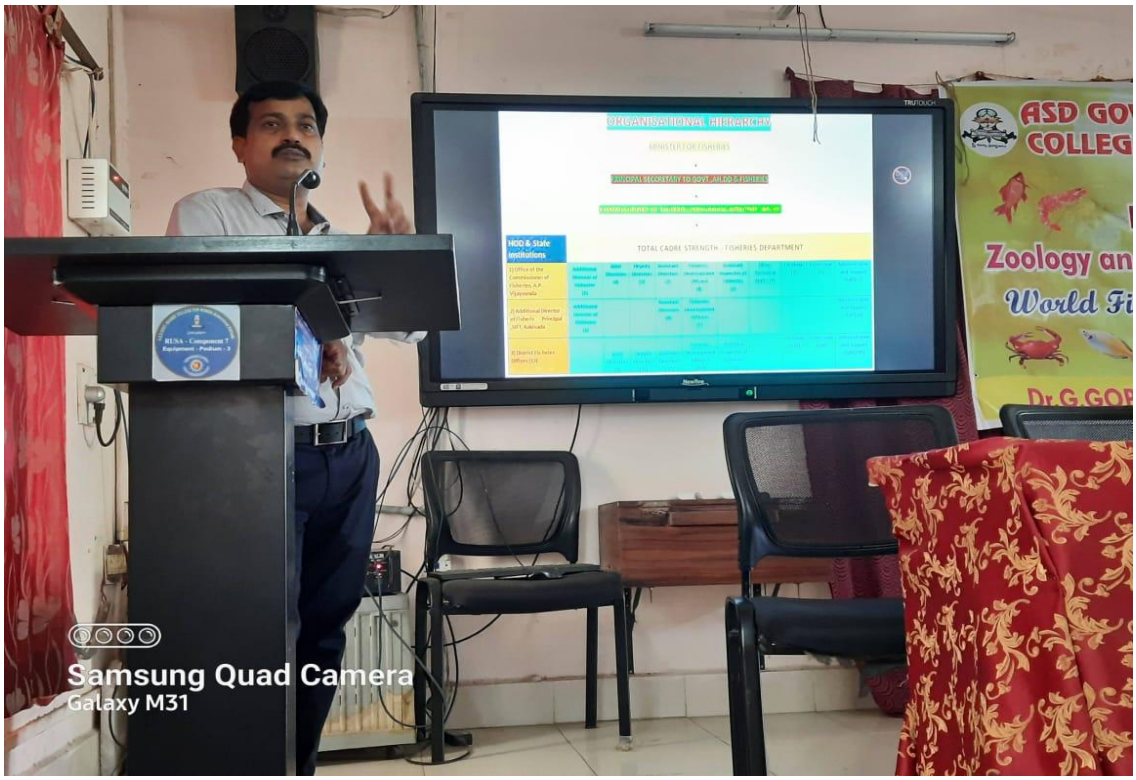
DEPARTMENT OF ZOOLOGY AND AQUACULTURE TECHNOLOGY

Guest Lecture

The Department of Zoology & Aquaculture Technology has conducted the Guest Lecture on 21-11-2021. The resource person Dr P.Gopi, Fisheries Development Officer of State Institute of Fisheries Technology has enlightened the students on the topic " **Recent Trends and Future Scope of Aquaculture".** 96 students have participated in the programme and are equipped with knowledge of Aquaculture.



Principal Dr V. Anantha Lakshmi – Addressing the Students



Guest Lecture by Dr P. Gopi, FDO, SIFT

Recent Trends in Aquaculture:

Sustainable Aquaculture: There is an increasing focus on sustainability in aquaculture practices. This includes adopting environmentally friendly and socially responsible methods of farming that minimize the impact on the environment, such as reducing the use of antibiotics and chemicals, improving feed efficiency, and reducing waste and pollution.

Integrated multi-trophic aquaculture (IMTA): IMTA is a practice that involves cultivating different species of aquatic organisms in the same system to optimize resource utilization and reduce environmental impacts. For example, fish farming can be integrated with seaweed or shellfish farming to create a mutually beneficial relationship where the waste from one species becomes a nutrient source for another species, reducing the need for external inputs and improving overall system efficiency.

Recirculatory Aquaculture System (RAS): RAS are closed-loop systems that recirculate water, allowing for more efficient and controlled farming conditions. RAS can reduce the risk of disease

outbreaks, minimize water use, and enable farming in landlocked areas, making them increasingly popular in aquaculture operations.

Genetic improvement: Genetic improvement techniques such as selective breeding, genetic engineering, and gene editing are being used to develop improved strains of aquatic organisms with desirable traits such as faster growth rates, disease resistance, and improved feed conversion efficiency.

Alternative feeds: There is a growing interest in finding alternative and sustainable feed sources for aquaculture, as traditional feeds such as fishmeal and fish oil are becoming increasingly expensive and unsustainable. This includes using plant-based feeds, insects, microorganisms, and other novel sources of nutrition for farmed aquatic species.

Traceability and certification: As consumers become more aware of the environmental and social effects of their food choices, including seafood, they are becoming more concerned. As a result, there is an increasing demand for aquaculture product traceability and certification, such as third-party certifications for sustainable and responsible aquaculture practices, to ensure that seafood is produced in an environmentally and socially responsible way.

Technology Adoption: Aquaculture operations are increasingly adopting technology to improve efficiency, productivity, and sustainability. This includes the use of sensors, automation, artificial intelligence, and data analytics to monitor water quality, feed management, disease detection, and overall farm management.

Future scope of aquaculture:

The future scope of aquaculture looks very promising, with significant potential for growth due to increasing global seafood demand, a growing focus on sustainability, and technological advancements, predicting that aquaculture will play a major role in securing future food supplies by providing a substantial portion of the world's fish protein needs, especially as wild fisheries face pressure.

- **Increased Production:**

  Aquaculture production is expected to continue rising significantly, with projections showing a substantial increase in farmed fish production to meet the growing global demand for seafood.

- **Sustainability Focus:**

  Emphasis on sustainable practices like recirculating aquaculture systems (RAS), responsible feed development, and minimizing environmental impact will be crucial for industry growth.

- **Technological Advancements:**

  New technologies like genetics selection, disease management tools, and automation will enhance production efficiency and quality.

- **Offshore Aquaculture Development:**

Expanding offshore aquaculture operations in deeper waters will open up new possibilities for larger-scale fish farming.

- **Diversification of Species:**

  Aquaculture will likely diversify beyond traditional species, including cultivation of new fish, shellfish, and seaweed varieties to meet evolving consumer preferences.

- **Economic Impact:**
  Aquaculture is poised to generate significant economic benefits, creating jobs and contributing to coastal communities' livelihoods.
  Specific areas with promising future scope in aquaculture:

- **Marine Aquaculture:**

  Growing demand for seafood like salmon, shrimp, and tuna will drive further development in marine aquaculture.

- **Seaweed Farming:**

  Cultivating seaweed for food, biofuel, and other applications holds immense potential due to its sustainability and nutritional value.

- **Ornamental Fish Production:**

  Aquaculture can also contribute to the production of ornamental fish for the aquarium trade.

- **Aquaponics:**
  Integrating fish farming with hydroponics to create a self-sustaining system, potentially reducing water usage and waste.

Challenges to consider:

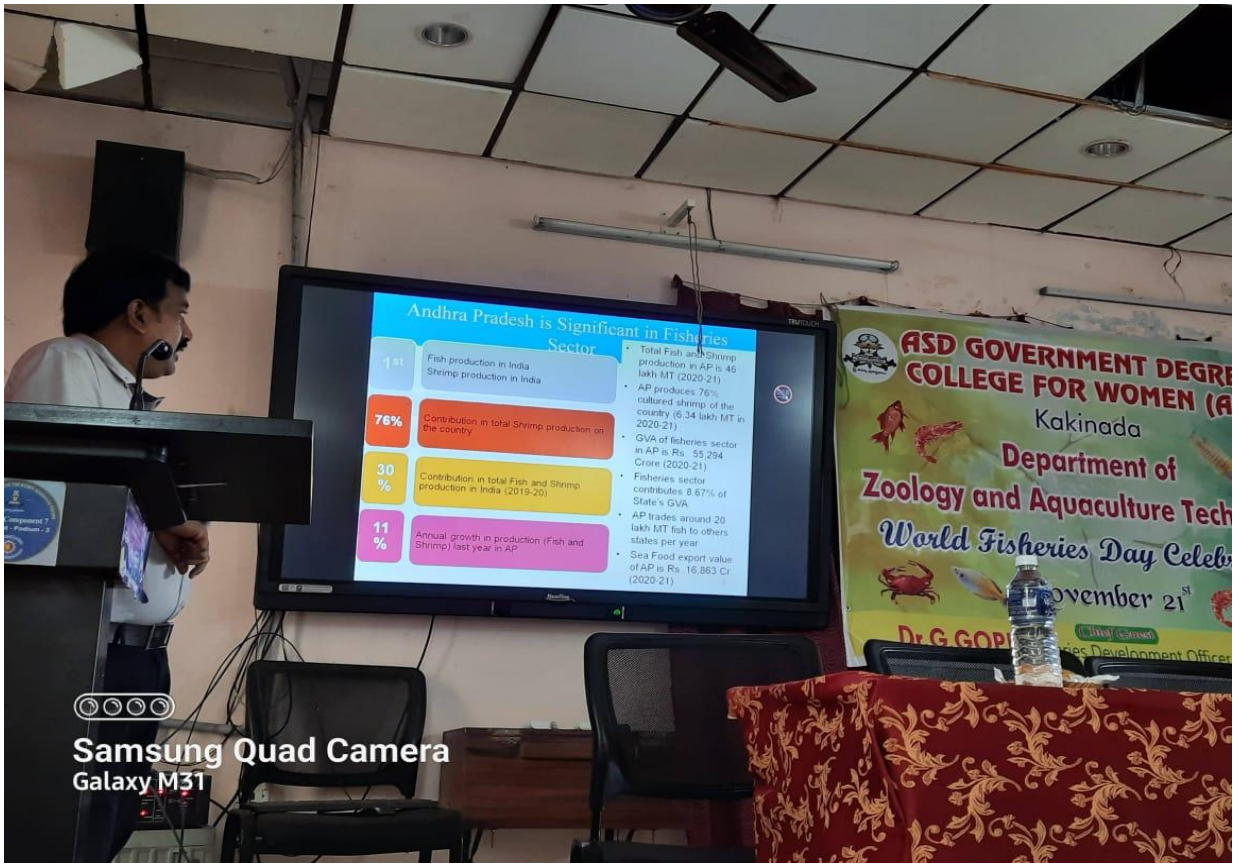
- **Environmental Concerns:**

  Managing potential environmental impacts like water quality degradation and disease outbreaks needs careful attention.

- **Regulations and Governance:**

  Clear regulations and effective monitoring systems are crucial for sustainable aquaculture practices.

- **Consumer Perception:**
  Addressing consumer concerns about farmed fish quality and sustainability is key to market acceptance.



Guest lecture by **Dr. P. Gopi,** Fisheries Development Officer in Soil and Water Analysis Lab**, at** State Institute of Fisheries Technology**,** Kakinada on **"Recent Trends and Future Scope of Aquaculture"**