

Report of Study Tour

- **MSc 2 FND**

MYSORE UNIVERSITY

On 5th of March 2024, our first visit to Mysore was Food Science and Nutrition, University of Mysore, Manasagangothri, Mysuru, Karnataka.

The University of Mysore started M.Sc. course in Home Science in the year 1970 at the palatial mansion in Manasagangothri campus. This seed grew up as a tree of Department of Studies in Food Science and Nutrition offering Post Graduate and Doctoral Degree Programs in Food Science & Nutrition and in Human Development. This is the only University offering postgraduate and Ph.D. courses in Food Science and Nutrition in Karnataka since more than four decades. The Master's program in Human Development was introduced in the academic year 1993-94. The department celebrated Silver Jubilee in the year 1995. The department is housed in its own academic building in the Manasagangothri campus since 1973 and got an extension wing under VIII U.G.C. plan (1993). A new building for housing Human Development course was built in 1999-2000.

Curriculum- The two courses i.e. Food Science & Nutrition and Human Development are conducted under credit based and choice based system since 2010.

The topics that they cover in M.Sc. program in Food Science and Nutrition - Food Science and Processing, Nutritional Biochemistry, Community Nutrition, Human Nutrition, Food Laws and Food Safety, Food Preservation, Advances in Nutritional Science, Clinical Nutrition and Dietetics; Soft core - Nutraceuticals and Health Foods, Food Fortification, Food Biotechnology, Statistics and Research Methodology, Food Microbiology, Food Packaging Technology, Diet in Diseases; Open elective courses - Healthy Life Styles and Nutrition, Culinary Science – Principles and Techniques, Foods in Indian tradition.

Staff and students are engaged in research activities and publications. The department has to its credit 48 Ph.D. Degrees, 800 M.Sc. Dissertations, 500 research papers in reputed national and international peer reviewed journals and 600 scientific paper presentations in seminars, conferences. Several papers have received awards.

The PHD students interacted with us and did poster presentations of their work. The presentation really helped us understand communication skills, visual communication, public speaking and time management while presenting.

Here are some research topics which were presented on the screen.

1. Studies on promotion of Dietary status and Food behavior among children with Autism
2. Cardiovascular Risk assessment and modulation in type 2 Diabetes Mellitus
3. Clinical Metabolic and Nutritional Status of Women with PCOS
4. Nutrition in Pre dialysis Chronic Kidney Disease

After the poster presentations one phd student had co founded a wellness centre call **Ambara**- her idea of building a holistic approach centre was fascinating and it included :

- Corporate Sessions
- Family programmes
- Disease correction
- Stress management
- Naturopathy
- Yoga which practises general yoga and specific disease yoga
- Physiotherapy area
- Therapeutic massage rooms
- Counselling rooms

We also had an opportunity to visit their Nutritional biochemistry and Food science laboratories. The instruments were shown to us and explained in very detail how its functioning works and application in research. The laboratories were equipped with various instruments – HPLC, Spectrophotometers (UV-Vis), Automated Protein Digester, Flourimeter, Semi-auto analyzer, Moisture analyser, Viscometer, Freeze dryer, Rotary evaporator, Refrigerated centrifuge etc., Overall it was very enriching visit.



Visit to Nandini Dairy on March 6, 2024

On March 6, 2024, we had the opportunity to visit Nandini Dairy, which is located in Bangalore. Nandini Dairy collects milk from various villages in the vicinity of Bangalore through 14 unions. Upon arrival at the dairy, we learned that the milk collected from the farmers undergoes rigorous quality checks by the authorities to ensure its purity and to prevent any adulteration. Following this initial inspection, the milk is transported to the dairy, where a second round of checks is conducted to verify its quality.

Once the milk is verified, it undergoes pasteurization at a temperature of 72°C and is then rapidly chilled to 4°C within four hours to maintain its freshness. Nandini Dairy is equipped with eight xylos, each with a capacity of 15,000 liters, to facilitate the processing of the collected milk. The dairy boasts an impressive range of 198 different products.

During our visit, we had the opportunity to observe the butter-making process, from churning to packaging. We also observed the packaging process for curd, where milk is mixed with specific cultures in polythene bags and stored for four days. During this time, the milk curdles within the bag before being distributed. Additionally, we witnessed the packaging of sweets such as peda. The dairy also features a large cold storage facility where products are stored before being distributed to retailers.

The staff at Nandini Dairy were extremely friendly and provided us with detailed explanations of the dairy's operations. Additionally, they generously offered all students and staff delicious and chilled buttermilk.

Overall, our visit to Nandini Dairy was informative and enjoyable. We were impressed by the dairy's commitment to maintaining high hygiene standards and ensuring the quality of its products.



SPORTS AUTHORITY OF INDIA (SAI)

The Sports Authority of India (SAI) stands as a preeminent institution in India devoted to fostering sports and nurturing athletes across diverse disciplines. It offers cutting-edge facilities, training regimens, and support structures aimed at cultivating athletes for both national and international competitions. SAI's commitment to holistic athlete development encompasses key aspects such as nutrition, training methodologies, recovery strategies, and skill enhancement techniques.

SAI employs skilled professionals known as sports scientists, who are tasked with crafting personalized nutrition plans tailored to optimize athletes' performance and facilitate their recovery. These experts also monitor factors like dehydration and nutritional deficiencies to ensure athletes remain at their peak.

During intense training sessions, SAI conducts Sweat Rate Analysis to gauge athletes' fluid loss, enabling the formulation of personalized hydration strategies to uphold optimal performance levels.

Operating the National Centre of Excellence (NCOE) Athletes Hostel, SAI provides lodging for athletes from across India during training camps, fostering an environment conducive to focused training and fostering camaraderie among peers.

Recently, SAI has developed a new women's hostel with 300-500 beds, repurposing a former golf facility. This accommodation ensures comfortable living quarters for female athletes engaged in training programs.

Utilizing amenities such as swimming pools for recovery, SAI offers athletes low-impact modes of rehabilitation and relaxation following rigorous training sessions. Moreover, recovery facilities like saunas and ice water baths aid in muscle relaxation and injury prevention post-training, while physiotherapy services play an integral role in athletes' recovery, rehabilitation, and performance enhancement.

To cater to combat sports, SAI houses a multipurpose hall equipped for specialized training sessions, aimed at honing athletes' skills and refining techniques. Additionally, a shooting range facility is available for athletes to practice and enhance their marksmanship skills under professional guidance.

With state-of-the-art facilities including hockey and cricket fields, basketball courts, and other sporting amenities, SAI ensures comprehensive training opportunities across various athletic disciplines.

SAI features an academic block dedicated to coach training programs, offering diplomas ranging from 6 months to 1 year, aimed at cultivating a skilled cadre of coaches capable of effectively nurturing athletes.

Adhering to a nutritious regimen, athletes at SAI commence their mornings with fruits, providing essential simple carbohydrates for energy. Furthermore, para-athletes with guide runners receive audio diet plans tailored to their specific needs.

Emphasizing a cautious approach towards supplements, SAI underscores the importance of a balanced diet rich in nutrients, endeavoring to plan menus that maximize athletes' nutrition without relying extensively on supplements, which could be costly and potentially harmful.

Sports scientists at SAI collaborate closely with coaches to relay nutritional and training insights, ensuring a synchronized approach to athlete development and performance optimization.

Thanks to SAI's comprehensive training programs and support systems, athletes have garnered numerous accolades in prestigious competitions, including the Olympic Games, underscoring the efficacy of their training methodologies and athletes' unwavering dedication.

The Sports Authority of India (SAI) stands as a beacon of excellence in the domain of athlete development, offering a conducive environment, top-tier facilities, and expert guidance to foster the growth and success of athletes across various sports disciplines.



St. John's Institute

St. John's Research Institute (SJRI) is an integral part of the St. John's Academy of Health Sciences that is administered by the Catholic Bishops Conference of India (CBCI) and was conceptualised in the year 1998 and moved into the present facility in the year 2004. The Academy has a broad, holistic vision and an approach to health problems of the country. Since its inception, the Academy has been involved in training of health professionals and service delivery through the St. John's Medical College and Hospital, which is today ranked among the premier medical institutions in the country. The SJRI was set up with a commitment to pursue excellence in research and to build capacities in health-related research.

In 1998, two alumni of St. John's Medical College put forth a novel concept of a Research Centre of Excellence in St. John's. Dr Salim Yusuf (batch of 1969) and Dr. Prem Pais (batch of 1964) were the originators of the concept. Dr Salim Yusuf and Dr. Anura Kurpad raised the initial corpus for the Facility. The Governing Board approved the creation of the St. John's Research Institute in 2000. Bishop Percival Fernandes along with the then Director Rev. Dr. Thomas Kalam and Dean of St. John's Medical College Dr. Mary Ollapally (batch of 1963) was instrumental in this approval.

At the institute we met Dr. Rebecca Raj who was the Department head, ma'am explained is what are the different clinical trials were done at the institute and then with the help of her other associates, we were guided to see the BOD/ POD where we saw how a person weight is checked, we also saw how for the BOD/POD we require specialised suits without any air pockets so the TBW can be accurately measured. Then we were guided to see the PEA pod which is used for children, toddlers and infants, the associate explained us the principle and also told us that children love sitting in the PEA pod as they feel as if they are sitting in a

spaceship, and they also explained us about their ongoing project where they spoke how they are calling children and checking their weight for if they are having any comorbidities.

Then we saw the machine which was made in the institute which was the total potassium counting machine, where sir explained the principle and showed us the working of the machine and also showed us the analysis and the peaks that form how they calculate it. After that we were guided to the hospital where we saw the DEXA machine its working and how they calculate the total body fat and how its the gold standard and very accurate and also very useful in sports institute. Thereafter, we went to the muscle physiology lab where we saw how the muscle function works and how the hand grip metre works and ma'am also asked our student to volunteer and we saw the hand grip of the student and then we saw the working of the gas chamber.

Dr. Rebecca Raj then addressed us how important research is important in our life and we should never stop learning.





AKSHAY PATRA

The Akshaya Patra Foundation is a non-profit trust of International Society for Krishna Consciousness (ISKCON), located in Bangalore, Karnataka, India. The organisation operates the Mid day Meal Scheme in India. The organisation was established in 2000. It is the largest partner of the Union Government of India to implement the Mid Day Meal scheme in the government run schools of India. The scheme is based on a public-private partnership. Vision of the organization is no child in India shall be deprived of education because of hunger .Mission is

to feed 3 Million Children Everyday by 2025. This organisation feeds 22,10,516 Children everyday .29,000 schools and have 72 kitchens in 16 states . In the Bangalore branch there are 269 workers . Kitchen begins at 4 am in the morning. The raw materials used are checked for quality and then further processed . The food is cooked at 95 degree Celsius and served at 45_60 degree Celsius

Energy provided to primary school is 450cal /Meal and 12gm protein . Upper primary is provided 700 cal and 20 gm of protein . The Akshaya Patra kitchens produce about 350 kilograms of organic waste each day.To reduce the amount of waste going to landfill, the foundation has set up biogas plants in some of its kitchens. This initiative started with the centralized kitchens at Bellary and Vasanthapura (Bangaluru) on Earth Day (April 22) 2016. After the COVID-19 lockdown was announced, Akshaypatra began a food program to feed the migrant workers. They provided cooked food as well as dry grocery kits.



GOLD'S GYM

Gold's Gym is a globally renowned fitness brand that has made its mark in India. With a strong legacy dating back to 1965 in Venice Beach, California, Gold's Gym has become synonymous with fitness excellence and innovation. Gold's Gym India carries the legacy ahead in the home country since its inception in 2002.

World-class fitness facilities and a comprehensive range of workout programs tailored to meet the needs of diverse fitness enthusiasts is what sets us apart from others.

Gold's Gym India, a part of this esteemed legacy, has expanded its presence across various cities, aiming to empower individuals to achieve their fitness goals, regardless of their fitness levels or aspirations.

It's a fitness haven that combines state-of-the-art equipment, expert trainers, and a supportive community to foster a holistic approach to wellness.

Dr. Nikita Nadkarni (Sr. Exercise Science Faculty) explained 5 principles of exercise which are Sit and reach, Squat down, Russian twist, Over head press and Rowing which can be done at home.

She explained the importance of exercise in daily life and how exercise plays a crucial role in women's health.



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