

Seminar on

**'SUSTAINABLE SOLUTIONS
IN THE FOOD INDUSTRY'****ON
27 FEB
2015**Organised by **PFNDAI** andSponsored by **Novozymes South Asia Pvt. Ltd.**Report by **Ms. Ummeayman R.**, Nutritionist, PFNDAI

It is the need of the hour to look at issues relating to sustainability, not only in the terms of products but in all aspects of production. Indian government has been promoting the idea of 'Make in India' and industry has been very happy with the prospects of getting a big boost.

All the signs are good for a rapid growth in all industries including food industry. People are spending more for better quality safer foods and would not mind spending extra for taste and nutrition. Industry has always been talking about their products being just that. Agricultural production has been growing steadily and also raw material quantity and quality needed by industry could be produced. Whether in the long run this growth can be sustained will depend on several factors. Sustainable solutions are needed to maintain the growth with high quality production.

There have been examples of rapid growth causing depletion of resources such as water, raw

materials and power. Thus the growth in food industry needs to be balanced and sustainable so the growth could be continued for long. It is not just governments but even consumers are becoming aware of the needs.

One definition of sustainability states it as the practice of maintaining processes of production indefinitely without degrading or endangering natural bio-systems so it meets the needs of present without compromising the ability of future generations to meet their own needs. In case of food industry, it will mean use of resources, equipment, processes and packaging as well as manpower and waste management in a sustainable manner.

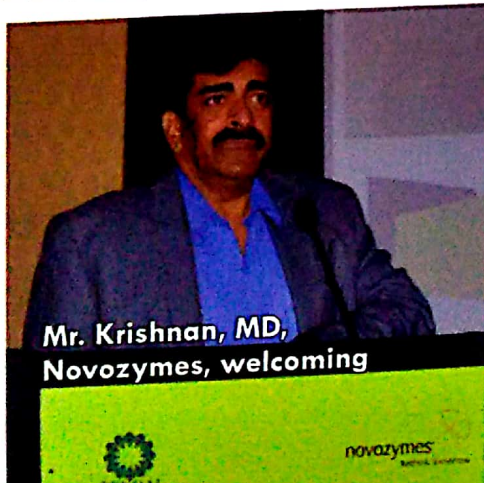
With this thoughts, the delegates from Food industry were welcomed by Mr. G.S. Krishnan, MD, Novozymes. He gave an insight into the need of sustainability in today's world and importance of

sustainability in food. The world's population is predicted to increase to 9 bn by 2050 and so food production needs to increase by 70% to cope". Roughly one third of the food

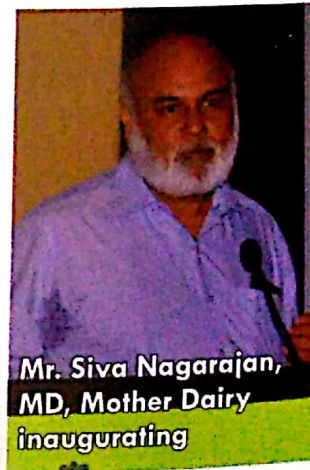
produced in the world for human consumption every year, approximately 1.3 billion tonnes - gets lost or wasted". Here, biotechnology can play a major role in terms of food security as it increases access to healthy food by increasing shelf life of breads and cakes. Biotechnology is also helpful in food safety as it reduces acrylamide in potato-based snacks, french fries, and coffee. It also plays a role in managing food waste as it increases juice yield by up to 85-90% by using Advanced Food Processing (AFP) techniques, thereby reducing waste.

Inaugural the Address on 'Context of Food industry in India (Make in India)' Mr. Siva Nagarajan, MD, Mother Dairy, stated that we need to protect the available resources as we don't inherit the

earth from our ancestors, we borrow it from our children and so it is our duty to repay for what we have utilised. Thus the baseline study of sustainability is 'Meet the needs of the present without



**Mr. Krishnan, MD,
Novozymes, welcoming**



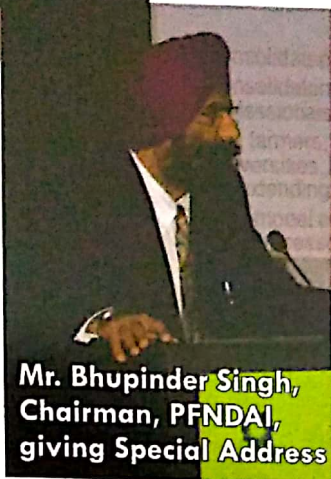
**Mr. Siva Nagarajan,
MD, Mother Dairy
inaugurating**



Chairman and Vice Chairman, PFNDAI

compromising the ability of future generation to meet their needs, this is sustainable development. All our endeavours need to be to gap assessment in every aspect and fill the gap. There is to be a synergy between vision and sustainability. Mr. Siva shared the Sustainability goals of Mother Dairy i.e. 20% water efficiency, at least 1 zero discharge unit and 100% water recharge, reduction of carbon footprint by 20% over 3yrs, Roof top solar systems in all processing units.

Mr. Asim Parekh, Vice President, Technical, Coca Cola in his Key Note Address on 'Innovation and food industry' brought the focus on one of the important concern for food industry, which is scarcity of water and water pollution. NGO's are trying to solve the problem but the pace of the solution is slow. Industry is trying and would like to combine and ensure environment and economic sustainability. Taking steps towards sustainability, the challenges that are normally faced by industry is sustainable sourcing, increase in operating efficiency,



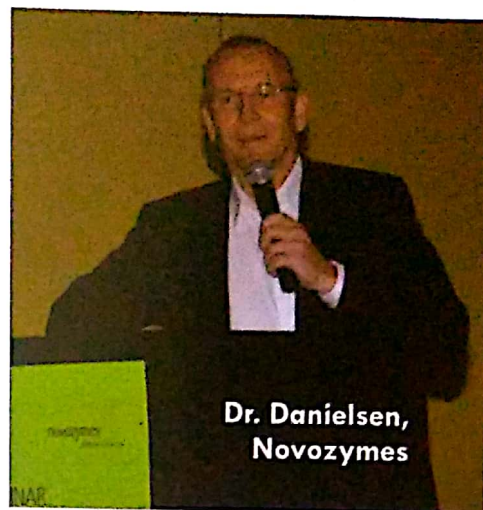
Mr. Bhupinder Singh, Chairman, PFNDAI, giving Special Address

sustainable offering. Innovation is all about new and sustainable product. Pulp that was once considered to be a waste is now used in juices to make them pulpy drinks and this has increased the cost of pulp which was once considered a waste product. Thus it would be wise to say that there is no waste, we call it waste as long as we don't know its appropriate use.

Special Address on 'Future prospects' by Mr. Bhupinder Singh, CMD, Vista Processed Foods & Chairman, PFNDAI, presented some on hand experience and projects that he has undertaken. He also shared the model of Sustainable 'Consolidated' Farming by Vista (OSI) India. The company has undertaken consolidated farming to enable small farms to adopt the best practices. Consolidators were helped to recruit technically qualified agriculture professionals. The farmers, with the help of consolidators have been tied up with Agriculture Universities, Research Institutes, Input Companies, Banks, Govt Institutions, etc for extending the industry benefits. This model ensures even spread of risk between farmers – to – consolidators – to – processor – to – supplier leading to sustainable farming practices.

Session 1-Importance and Application of Technology

in Food Industry:
Chair: Dr. Danielsen, Novozymes
 Dr. Danielsen, Head R&D, Novozymes presented



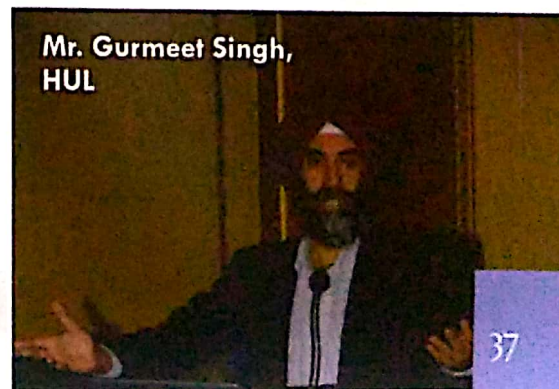
Dr. Danielsen, Novozymes

'Innovation for ensuring sustainability'. He stated that the aim of any company should be to produce more by increasing the efficiency, decrease the energy consumption and decrease the waste system. In most of the cases, the conventional methods are followed but it's time to look at innovative methods with enzyme assistance. Bio-innovation is a solution for food and beverage.

Importance of Biotechnology applications in driving food industry and food processing industry was presented by Dr. Gurmeet Singh, R&D Director for Refreshment Discover, HUL. To improve the production the area to intervene are – raw materials, manufacturing, transport, retail, consumer disposal. For tea-energy, water, and resources has to be invested to double the output. Thus tea colour, taste, brewing and other physical properties of the product can be improved. But there is a much simpler way to achieve the similar results of quality improvement, it is by Genotype isolation.



Mr. Asim Parekh, VP, Coca Cola, giving Keynote Address



Mr. Gurmeet Singh, HUL



Dr. Malathy V., PFNDAI

Dr. Malathy V., Food Technologist, PFNDAI presented General introduction to sustainability issues in the food sector. She presented some of the examples of innovative technologies in food industry. Some of the simple applications are as sensors in detection of salmonella in the production line and maintain the quality and Nano Barcode- where the product and atmosphere in the package is detected- oxygen in the packet is detected by the bar code in the package .There are innovative processes for utilization of waste and by-products, some examples are production of potato protein from potato processing waste water, production of vegetable or fruit juices from cutting residues and whey permeate is a success story.

Dr.Indu S Sawant, Principal Scientist, & I/c Director, ICAR-NRCG. She presented the two Indian bred grape varieties that are highly suitable for juice making One of the variety is a new grape juice variety ' MEDIKA', which is hybrid of Pusa Navrang x Flame Seedless. These varieties are developed at ICAR-NRC for Grapes, Pune. It is a teinturien variety with coloured pulp. The juice from this is well appreciated due to its attractive color, sweet taste and no foxy flavor. Also the nutraceutical compounds in



**Dr. Indu Sawant,
PR Scientist,
NRC for Grapes,
Pune**

Medika are very high with Quercetin-3-glucoside being 12 – 34 mg/kg and resveratrol being 1 – 1.5mg/kg.

Session 2: Food and Nutrition was chaired by Mr. Sridhar Kameswaran, GSK.

Affordability and access to Food is an important aspect. Mr. Kameswaran stated that there is a need for network building for nutrition and more emphasis and awareness is to be created towards physical activity. Right balance is extremely required.

How to address global issues/needs related to hunger and nutrition was addressed by Prof. Shobha Udipi, Director, Research in Food & Nutrition, SNDT Women's University. The four pillars of food security are availability, access, utilization and stability.

Undernutrition one of the world's most serious but least addressed socioeconomic and health problems. Human and socioeconomic costs of undernutrition are enormous and there is greatest impact on the poorest, especially on women and children. In India, an estimated 35 - 40% of fresh produce lost because wholesale & retail outlets lack cold

storage . Even rice grain which can be stored more readily, ~1/3rd of the harvest in Southeast Asia lost after harvest to pests and spoilage .When there is a glut of food crops, farmers often have to sell immediately to raise cash, may occur at a loss due to lack of storage facilities. Thus steps need to be taken and attend to disparities between different areas in a given country in terms of food supply and access, challenges of distribution of food across areas and countries.

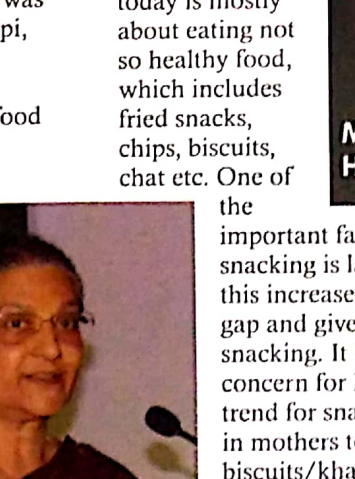
Snacking and India presented by Ms. Devishree Murty, Nutrition and Health Leader, South Asia,

HUL, showed how have changing lifestyles affected snacking trends?. Snacking today is mostly about eating not so healthy food, which includes fried snacks, chips, biscuits, chat etc. One of

the important factors of snacking is late dinners, this increases the hunger gap and gives space for snacking. It is not only a concern for kids but the trend for snacking is seen in mothers too, biscuits/khari, fruits & appam/dosa/uttapa are the most frequently consumed pre dinner snacks among mothers .Thus is it wise to consume healthy snacks such as nuts, as they are rich in proteins, fibre and essential fats or consume dairy foods that are rich in proteins, calcium, vitamins A/D, or consume eggs as they are



Mr. Kameswaran, GSK



**Dr. Shobha Udipi,
SNDT**



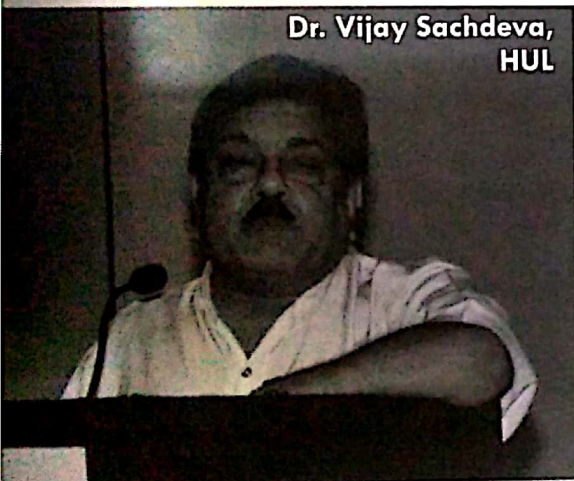
**Ms. Devishree Murty,
HUL**

good source of proteins, vitamin A/D .

Session 3: Food and sustainability was chaired by Mr. Asim Parekh, Coca Cola

'Sustainability Considerations in Food Manufacturing – A GSKCH journey' was presented by Mr. Sridhar Kameswaran, Exec. VP,R&D- Nutritionals, GSK. Mr. Kameswarangave an insight into the sustainability efforts taken by GSK through the use of raw materials. He also stated some of the environment strategies for 2015.

'Issues and challenges in the food sector' were discussed in his presentation Dr. Vijay Sachdeva, Procurement Manager – Supplier Dev., S. Asia & Africa, HUL. The



Dr. Vijay Sachdeva, HUL

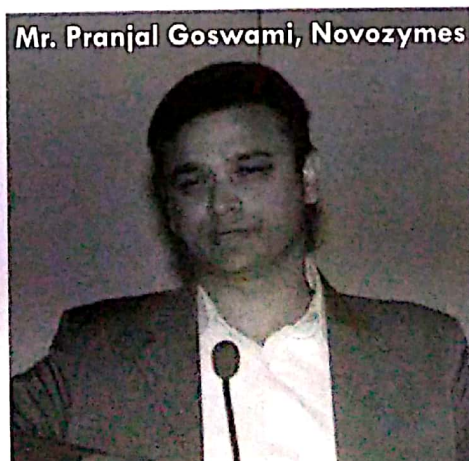
goal of company is to double the size of the company's sale but with reduction in the environmental impact. He gave an insight into the case study of Tomatoes cultivation whereby the farmers are made aware of the various technologies and were trained, they are provided with seeds and this gave a positive result.

Mr. Pranjal Goswami, Head, Sustainability, Novozymes stated the 'Important issues about sustainability & waste'. One of the biggest challenges the globe is

facing is 'feed the world' or in other words, providing the world population with enough food. The FAO has classified the current time as a "new era of rising food prices and spreading hunger," noting that "food supplies are tightening everywhere and land is becoming the most sought-after commodity as the world shifts from an age of food abundance to one of scarcity."

The global challenge is to increase food production through improving agricultural productivity efficiently, whilst minimizing environmental footprint in the food value chain, by adopting sustainable development approach. A "sustainable food" system consists of a variety of elements such as production of food, supply of food, health, safety, affordability, quality, viable food industry and sustainability issues such as climate change, biodiversity, water etc.

An integrated approach of management, governance and innovative technology application is expected the deliver desired outcome in mitigating the challenges around food. Capacity of technological innovation alone is not a solution to all difficulties of sustainable development; it is just one constituent in a large and complex socio-economic system. Application of biotechnology has a significant potential to increase production and productivity, preserve the environment, and improve food safety and quality.



Mr. Pranjal Goswami, Novozymes

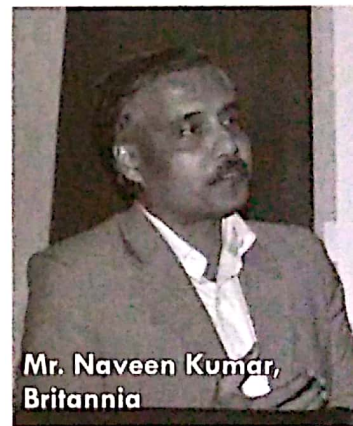


Mr. Venkatesan, Mead Johnson

Closing Session: Way forward for food industry in India was chaired by Mr. Sailesh Venkatesan, MD, Mead Johnson.

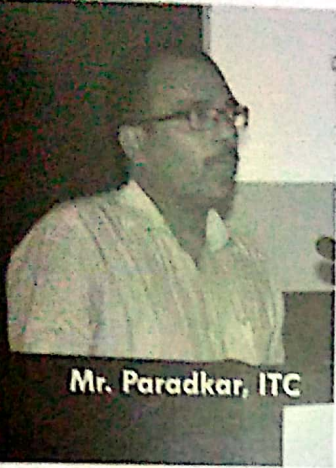
'He stated some of the problems that are faced by industry and how regulation is a concern and one of the hindrances to innovation.

Presenting his ideas on 'Possible steps required to bridge the gap to bring competitive advantage for the industry', Mr. Naveen Kumar, Head R&D, Britannia stated 'Innovation s in India are tactical , India needs more sustainable and radical innovations, innovate around consumer occasions and check consumer mindset, innovate around unmet consumer needs. Innovation can be in ingredients, inputs, processes, around consumer occasions. It is an enabler for growth'.



Mr. Naveen Kumar, Britannia

Way forward with food innovation, Dr. Manish Paradkar, Manager Quality, ITC R&D Centre presented the ways of Food Processing Innovations. He stated that it is

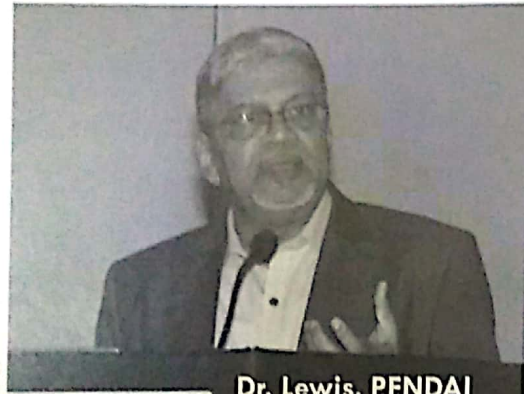


Mr. Paradkar, ITC

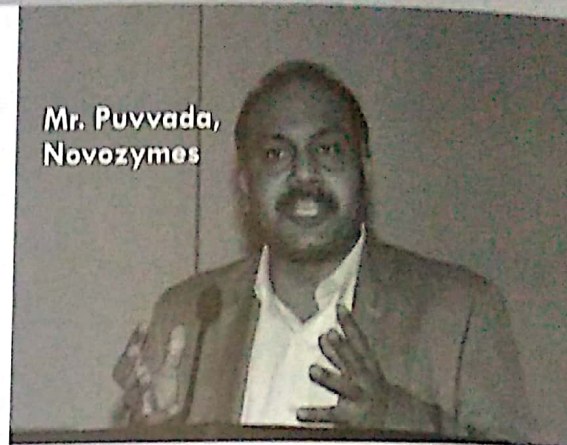
important to develop new processing technologies. Some of the processes like cold plasma processing and pulsed

electric processes are being utilized. These help to reduce production losses, to enhance nutritional values, to increase hygiene level, reduce D&D (damaged and destroyed stock) .Wet Polishing of pulses decreases nutritive value and addition of bran to Atta increases nutritive value.

'Regulatory Challenges', presented by Dr. J.I. Lewis , Chairman-Regulatory Affairs, PFNDAI, gave a wider view of the regulatory scenario in India. The concept of less government and more governance is good but the term governance needs to be understood, it is not liberty with control but it is responsibility with control.



Dr. Lewis, PFNDAI



Mr. Puvvada, Novozymes

Closing Remarks & Vote of Thanks by Mr. Krishna Mohan Puvvada, Sales Director, Novozymes, stated that this is just a step towards sustainability.

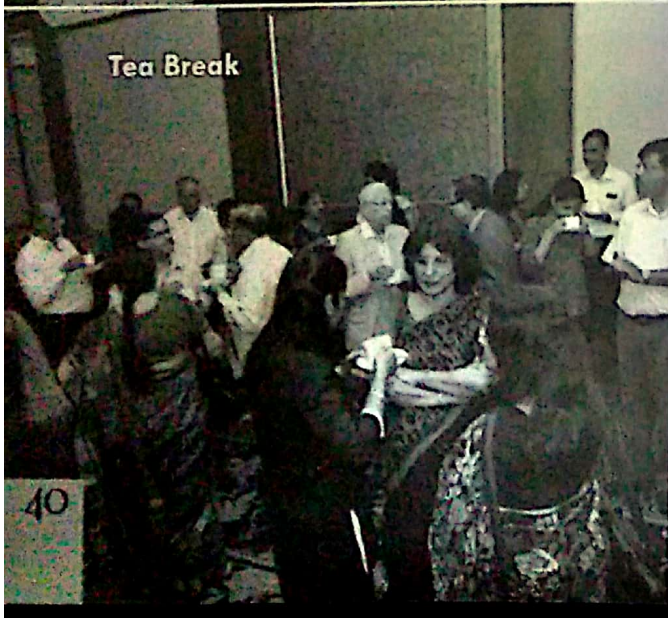
There is need to look at the environment issues with greater concern and more need to be done not only by food industry but other sectors too to get some sustainable solutions.



Dr. Adhikari thanking Ms. Pooja Bera of Novozymes



Organisers



Tea Break



Audience

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