



Feeding_{the}Planet

EU Agri-Food & Biotech Clusters on the World Stage



Country Report: **India**

The project	2
The framework	2
The methodology	2
The context.....	3
Market analysis of Punjab State.....	3
Market analysis of Maharashtra State	4
The Mission	6
Punjab State: Chandigarh and Delhi.....	6
Maharashtra State: Nasik and Mumbai	6
Achievements.....	7
Action Items and future collaboration opportunities in Punjab	7
Action Items and future collaboration opportunities in Maharashtra State	7



The project

Co-funded by the European Commission and coordinated by Lombardy Region, EU clusters Parco Tecnologico Padano (Lombardy - Italy), Agropolis International (Languedoc-Roussillon – France) and Oost NV (Food Valley Wageningen – The Netherlands), Feeding the Planet aims at promoting and commercializing the cluster expertise in the field of agricultural/breeding/food R&D (including health and nutrition), either through bilateral agreements and contracts or through calls from international organizations and governmental agencies and large foundations/charities. “FTP” also wishes to develop business opportunities and partnerships at international level in the agro-food sector, to the benefit of innovative and biotech-based enterprises, innovative research centers and food companies/SMEs.

2

The framework

The “Feeding The Planet” study visit to India aimed at building contacts with Indian “clusters” or governmental organizations, business and research parks interested in setting up a long term cooperation between India and Europe in order to:

1. explore trends in the Agro-Food and Biotech sector in India and get a clear picture of their technological needs and business opportunities for French, Italian and Dutch companies, academia and research centres;
2. have contacts with Indian companies which are interested in setting up a business in Europe (not only export) and which have a long term strategy and capacity to access the EU market;
3. set up technological cooperation between research institutes and companies from both India and Europe.

The methodology

Since the kickoff meeting of the project, EBTC - European Business & Technology Centre (<http://www.ebtc.eu/>) - has been involved in order to develop synergies for the mission to India organization and follow up, as it is recognised for the quality of its services, its knowledge of the Indian market and its capacity to reach out to the European business and research community.

EBTC is a programme co-funded by the European Union and implemented by EUROCHAMBRES, whose mission is to assist the Business, Science & Research Community - in Europe and India - to work together towards generating new business opportunities in clean technology transfer & establishing business relevant cooperation in the field of research, science and technology, in order to create a real European added value.

EBTC led the “Feeding the planet” delegation of experts in the sector of agriculture, agro-food and agro-biotechnologies to four cities of India visit: Delhi, Chandigarh, Mumbai and Nasik. This event was a combination of seminars, B2Bs and study tours to Indian government organizations, research Institutes, public and private companies for studying Indian agro and biotech sector and also to promote European Regions/organizations in terms of future business opportunities/partnerships with Indian entities.



The context

India is the 3rd world agricultural power with the 4th agricultural area extent in the world. In India, **agriculture** is the largest area of economic activity and accounts for 22% of the GDP. The Indian agri-food industry, estimated to be worth US\$181 billion, is expected to grow to US\$318 billion by 2020.

Agriculture is the largest employer in the country (52% of assets) and a little more than 600 million Indians depend directly or indirectly on this sector.

India is the largest producer of milk, and the second in the case of wheat, rice, cotton, sugar, tea.

Food self-sufficiency is an important issue in the fight against malnutrition remains widespread.

By 2025, India will be the world's most populous country with 18% of the world population.

The demand for food is growing and changing consumption to grow domestic demand for processed and value-added food products.

With a very strong domestic demand due to population growth and the rapid increase in purchasing power, agricultural production is oriented towards the domestic market. India is a net exporter of agricultural products.

The Indian **biotechnology sector** is one of the fastest growing knowledge-based sectors and one of the most successful scientific and economic areas in the Indian economy. India has great potential to become a leading global player in biotechnology: Bio-Agri emerges as the winner recording a growth rate of 37% followed by Bio-Services at 28% and BioIndustrial at 16%. Agri-biotech includes hybrid seeds and transgenic crops, biopesticides and biofertilisers. Indian biotech industry witnessed a growth of 17% in 2009-10 standing at a figure of EUR 2,218.58 Million. It accounted for around 14% of the total biotech revenue.

The processed food industry in India is at a nascent stage with only 2% of the total produce being processed. The food processing sector in India holds good potential for European companies.

There are 27 biotech parks across India. The largest are located in Hyderabad and in Pune. Important biotech parks are located also in Lucknow and Chennai. Typically, biotech parks are meant to provide the following facilities and services: research, incubation, clustering of private industries.

India's first agri-food cluster, in Mohali, is a public-private enterprise, which hosts an Agri-food Biotech Park besides sundry agriculture and food start-up companies. The cluster, a part of the 381-acre Knowledge City, consists of a National Agri-Food Biotechnology Institute (NABI) and a Bioprocess Unit.

Market analysis of Punjab State

The economy of Punjab State, located in Northwest India, is predominantly an agrarian one. A large portion of the land of the state is under cultivation because the Punjab plain is free from physical handicaps and the soil is very fertile. The deficiency of rainfall has been made up by irrigation facilities

The state is known for its huge production of wheat. The agro-based industries include food products, beverages, cotton, wood as well as papers. The second important arm of the economy of Punjab is the livestock. The third mention should be made of the wildlife and forestry.

Punjab is one of the fastest developing states in India; the state economy has grown at an average of around 8% during the last decade. At present the tertiary sector contributes around 43% in the GSDP followed by the secondary and primary sector at 29% and 28% respectively. The state is on its way to rapid industrialization. Punjab also has the lowest poverty rate in India at 6.16% and has won the best state performance award, based on statistical data compiled by the Indian Government.

The economic policy of the state mainly focuses on the development of agro & food processing industry, tourism, IT, textile and biotech. The state offers excellent infrastructure and environment for undertaking industrial ventures and has attracted huge industrial investments in the recent years.

The government of Punjab has set up various departments to support and promote agro units and agri infrastructure related projects the agro-industrial sector of the state. The Department of Agriculture and Animal Husbandry, the Punjab Agriculture University which provides a base for education, research and extension and the Cooperative Department which provides credit to the farmers.

The “diversification plan” will be submitted to the Union Government. There, it is expected to extend help, both in terms of money and mechanism, to Punjab to help it achieve the crop diversification target over the next five years. Through crop diversification, the government mainly wants to achieve three goals: check the rapidly falling subsoil water table, control the mounting power subsidy bill and break the stagnation in terms of yield in the wheat-paddy cycle.

Punjab has led the country’s economy in its endeavours for growth especially in the area of agriculture. It has average growth rate of 10%, which is amongst the highest in the country. The State called ‘Food Basket of India’, was the forerunner in bringing the ‘Green Revolution’ and has been contributing 40-60% of rice and 60-70% of wheat to the central pool for more than two decades.

Punjab is also making its mark in the global business scenario with major players rom around the world setting up ventures here, especially, in agri-business. In order to promote knowledge intensive sectors like Biotechnology & Nanotechnology for further growth in agriculture and agri-processing, the State Govt. has taken major initiatives for creating world-class infrastructure to support &D as well as industrial growth in these areas.

India’s first Agri-Food Biotechnology Cluster is being set up in Mohali, Punjab. It comprises National Agri-food Biotechnology Institute (NABI), Bioprocessing Unit (BPU), Biotechnology Park and Incubator.

Market analysis of Maharashtra State

Maharashtra is the second largest state in India both in terms of population and geographical area and the most industrialized state with 45 per cent people residing in urban areas.

Mumbai, the capital of Maharashtra and the financial capital of India, houses the headquarters of most of the major corporates & financial institutions.

The gross state domestic product (GSDP) at current prices for 2010-11 is estimated at \$224.12 billion and contributes about 14.9 per cent of the GDP. The GSDP has been growing at a rapid pace over the last few years. At present industrial and services sector both together contribute

about 87 per cent of the State's domestic product. The agriculture & allied activities sector contributes 13 per cent to the State's income.

The State has an excellent intellectual infrastructure. Through nearly 1000 institutions, it produces around 163,000 trained technical personnel each year. The State has already set up specialized parks for different sections including IT. The bio-industrial enterprises cannot sustain themselves unless they are backed up by a highly trained and skilled human resource.

Maharashtra is the base for top Bio-agri companies such as Monsanto, Mahyco, and Ajeet seeds. The state has got a well-developed laboratory and research and development infrastructure and a strong resource pool. The Maharashtra Government has set up an International Biotech Park, at Hinjewadi, 10 km from Pune city. This is the first public-private biotechnology park initiative in the state.

Maharashtra is a bio-diverse state with 9 agro climatic zones and varying soil types, suitable for agricultural development. The state has a strong skill base with a total of 73 institutions with an intake capacity of 5,895 students including 4 Agriculture Universities and 5 national level research organizations. Maharashtra has 8 Agricultural Export Zones (AEZ).

Reaching top most position in the country Maharashtra is India's leading agriculture state. The state has achieved many innovative agro-industrial ventures, the sugar co-operative and cooperatives for cultivating and marketing, including exports of grapes, mangoes, strawberries etc. Wide availability of varied horticultural produce due to varied range of climate & soil conditions offers tremendous scope to flourish state's processing industry to increase the processing & value addition from present 1.5% to reach up to 35% of total produce.

Alphonso Mangoes accounts for 90% of India's export in mangoes. It leads sugar industry with 201 sugar factories. The export from Maharashtra for fresh vegetables and fruits accounts for 30% and for processed food products is almost 50%. Maharashtra has the highest gross value addition to food products in the country 16.18%.

Maharashtra has eight Agri Export Zones spread across the state for Grapes and Grape Wine, Mangoes, Kesar Mango, Flowers, Onion, Pomegranate, Banana and Oranges. It also has additional five crop cluster for Cashew, Sapota, Sweet Orange, Fig and Custard Apple.

Animal husbandry is an important agriculture related activity. The State's share of livestock and poultry population in India is 6.8 per cent and 10 per cent respectively and the State ranks sixth in India in livestock and poultry population.

The Mission

Punjab State: Chandigarh and Delhi

- 27.05.2013 Seminar on “Indo-European Collaborative R&D and Business Opportunities”, Chandigarh (organized by EBTC in association with Punjab State Council for Science and Technology - PSCST)
National Agro-Food Biotechnology Institute (NABI), Bio-processing Unit (BPU) and Institute of Nanoscience & Technology (INST), Mohali
- 28.05.2013 Punjab Biotechnology Incubator (PBTI), Mohali
Punjab State Council for Science and Technology (PSCST), Chandigarh
Indian Institute of Science Education & Research (IISER) and visit of the future Technological Park, Mohali
Honey Processing unit, Kejriwal group, Chandigarh
- 29.05.2013 Delhi - Pusa campus - Indian Agricultural Research Institute (IARI)
National Research Centre on Plant Biotechnology (NRCPB) on the Indian Agricultural Research Institute Campus
All India Food Processor’s Association (AIFPA)

6

Maharashtra State: Nasik and Mumbai

- 30.05.2013 Seminar: “Indo-European Collaborative R&D and Business Opportunities”, Nashik (organized by EBTC, in association with NIMA - Nasik Industries and Manufacturers association)
B2B and C2C at Nashik industries & Manufacturer’s Association (NIMA)
York Winery and Sula Winery, Nashik
- 31.05.2013 Bhujbal Knowledge City, Nashik
Food processing company: Freshtrop Fruits Limited, Nashik
Renaissance Winery PVT. LTD, Ozar, Nashik



Achievements

The contacts established with Indian clusters and governmental organizations, business and research parks, and companies revealed mutual interest in setting up a long term cooperation between India and Europe.

The strategic interaction activated could go on and foster further opportunities in the follow up of the mission with specific attention to the following main concrete lines:

7

Action Items and future collaboration opportunities in Punjab

- Setting up of joint facilities / incubators for:
 - Managing post harvest shelf life of fruits & vegetables e.g., low cost controlled atmosphere packaging, edible coatings, application and biosafety of bacteriophages for enhancing shelf life.
 - Standardizing technologies for utilization of rice straw and other such biomass, value addition to cereal grains and horticultural crops.
 - Protocol development for food quality & safety assessment.
- Training on processing and adoption of region-wise standards for export.
- Testing protocols for basmati and non-basmati rice
- Sharing expertise of developing state-of-the-art terminal markets for fruits & vegetables including low energy low cost storage, grading, packing, coating and value addition to surplus and waste through on-campus SMEs.
- Cooperation on nanotechnology.

Action Items and future collaboration opportunities in Maharashtra State

- Collaboration on wine technologies with Indian Grape processing Board(MoU);
- Opportunities in technological cooperation of Ice-cream making, agro-food processing units at Nasik;
- Higher education collaboration with MET Knowledge city, Nasik and other education institutes;
- Collaboration on educating farmers;
- Collaboration on packaging and logistic concepts of agro food products;
- Collaboration in setting up agroparks for better logistics and warehousing.



Do you need more information, or have specific questions about Feeding the Planet upcoming missions and activities?

Get in contact with your local partner:

8



Regione Lombardia



MILANO

Milano

www.regione.lombardia.it

Maria Carla Ambrosini

Lombardy Region Manager

mariacarla_ambrosini@regione.lombardia.it

Ph. +39 02 6765 5496



Lodi

www.tecnoparco.org

Gianluca Careno

Managing Director

gianluca.carenzo@tecnoparco.org

Ph. +39 0371 466211



Montpellier

www.agropolis.org

Eric Fargeas

Director

fargeas@agropolis.fr

Ph. +33 4 67 04 37 44



Wageningen

www.oostnv.com

Linze Rijswijk

Senior Manager

linze.rijswijk@oostnv.nl

Ph. +31 64 63 90 076

www.feeding-the-planet.eu

twitter.com/FeedingPlanet

linkedin.com/groups/Feedingtheplanet-6528771



Regione Lombardia

