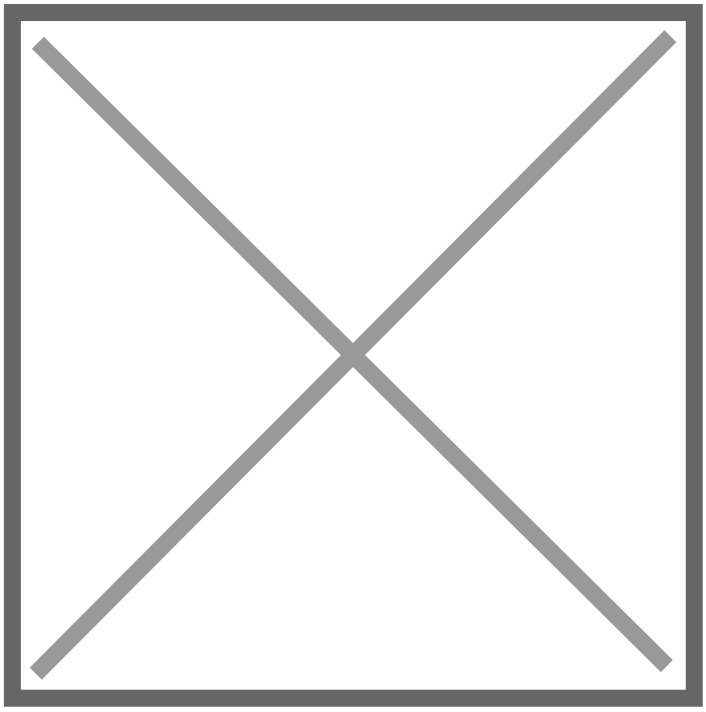
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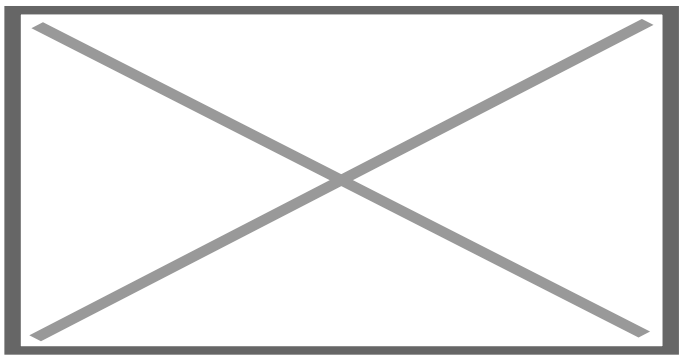
BioIndustrial makes silent progress

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- **Enzymes market records 34.5 percent growth.**
- **Indian companies like Advanced and Span to set up new production facilities.**
- **Biocon is the top enzymes company.**
- **Global vendors like Genencor and CHR-Hansen come direct.**

The BioIndustrial sector, which predominantly comprises the enzymes companies, is estimated to be Rs 320 crore in 2004-05. The total industry registered 34.45 percent growth in 2004-05. There are about 17-20 players in India and the market leader in the segment during 2004-05 was Biocon, with total sales of Rs 89.68 crore. Its enzymes business registered 34.82 percent growth. Novozymes is the other major player in the segment and the company is estimated to have done a total business of Rs 69 crore in 2004-05. Advanced Biochemicals, which has a strong R&D, manufacturing, and formulation knowledge of over 16 years, has reported its enzymes business grow by 31.8 percent. The company's total enzymes business was Rs 39.55 crore. Growing consumption of enzymes in the existing application areas, use of enzymes in the new industrial processes, strict enforcement of environment laws and cost savings were some of key drivers for the growth of this sector in India.



While, worldwide, the detergent industry is a major user of enzymes, India is a peculiar market. In India, this industry is still using the hand mixing process. However, in the next few years the industry is expected to use enzymes in a big way. Similarly, the food processing industry too is expected to substantially increase the consumption of enzymes. The government is encouraging establishment of wine parks for processing of grapes for value addition. Beer and brew industry finds a large potential for use of enzymes for improving the quality, higher yields and process efficiency. The textile industry is another sector that is consuming large quantities of enzymes for desizing, stone wash of denims, bioscouring, biopolishing of synthetic/natural yarns, raw silk and wool and for fabric. The break up of industry wise demand was difficult to capture. Nonetheless, the popular perception is that the pharma sector accounts for 50 percent of the total sales, followed by detergent manufacture (20 percent), textile processing (20 percent), food and feed (5 percent) and leather and paper (5 percent).

Indian companies produce various enzymes like amylases, proteases, cellulases, xylanases, glucoamylases, pectinases, papains, bromelain, catalases and several other eco-friendly biological products. The product range and services are growing

rapidly as the use of enzymes is gaining widespread acceptance. Companies are looking at producing different types of industrial enzymes using all the natural methods of production, from plants and vegetable origin, fermentation-both with solid state and submerge culture techniques.

Leading global players like Novozyme, Genencor International, Enzyme Development Corp., Dyadic International and Quest International are present here directly or indirectly. Genencor, a global leader in the enzyme market and having presence in India since 1996, is planning to enter the Indian market on its own. It has taken a few people on board. Last year Danish company CHR-Hansen set its shop here to market its products used in the food processing industry.

Market Share of Companies		
Company	**2004-03Revenues Rs Crore)**	**% Share**
Biocon	89.68	28.03
Novozymes	69	21.56
Advanced Biochemicals	39.55	12.36
Rossari Biotech	33	10.31
Maps India	22	6.88
Others	66.77	20.87
Total BioIndustrial	320	100

Among the Indian players, Advance Biochemicals, Biocon, and Anil Starch manufacture a amylase. Advance Biochemicals has been manufacturing and exporting cellulase enzyme for the past nine years. Currently it manufactures about 1000 metric ton per year of cellulase enzyme and exports most of it. Besides these manufacturers, there are exclusive enzymes dealers like Atul Brewchem, New Delhi, Karan Agencies of Mumbai, Southern Marketing Agency of Chengannur, Sukhjit Starch & Chemicals of Phagwara and Zytex (India). Several of the Indian manufacturers also export enzymes to the Asian, Latin American and European countries. Most of them are predominantly formulators. The formulation margins can be safely assumed at 25-30 percent.

Indian companies are channelizing their efforts to develop innovative enzymes at competitive prices. Agri and pharmaceutical companies like Excel Industries and Concord Biotech (manufacturers of statins) are making inroads into this segment too.

Companies are expanding their manufacturing bases. Ahmedabad-based Maps India will invest Rs 10 crore for production of new enzymes and microorganisms during the current year. It signed a memorandum of understanding with the government of Gujarat to that effect. Advanced Biochemicals is setting up a 100 percent Export Oriented Unit and is planning to invest over Rs 110 crore at Indore SEZ to manufacture cellulase, alkali protease, amylase, catalase, xylanase, acid and neutral protease enzymes.

The industrial biotech sector is relatively free from regulatory complexities of biopharma and bioagri sectors. Nonetheless, it is being felt that the current situation tends to favor traders as against manufacturers. The Department of Biotechnology has taken this into consideration and has included a road map in its draft on the National Biotechnology Development Strategy to promote and develop the sector The few strategic actions mentioned include emphasis on industrial biotechnology to reduce chemical and toxic load in effluent streams, developing non-fossil fuels that are eco-friendly and developing green technologies in industrial processing and encouraging public-private partnerships to promote investment in this sector. Further, it has been suggested to promote industrial biotechnology as a strategic area of manufacturing and developing green

technologies.

Besides this, it is being felt that the government has to promote the use and application of enzymes in different industries and announce a package of incentives to enable new entrepreneurs to consider this sector as an investment opportunity. Also academic and research institutes in India need to come up with more commercial technologies. Institutes like Institute of Microbial Technology, Chandigarh, National Chemical Laboratory, Pune and Indian Institute of Technology (IIT), Delhi are already working on some R&D projects in the industrial enzymes segment.

With least entry barriers and no social and regulatory risks involved in industrial biotechnology, the Indian companies that develop enzymes have a good future.