



*Transcribing Brighter **Bio** Future*

॥ जीवो ब्रह्मेव नापरः ॥



GSBTM

TRANSCRIPTING
BRIGHTER **BIO** FUTURE

Gujarat State Biotechnology Mission
Department of Science & Technology
Government of Gujarat

Why Biotechnology?

- **Provider of Solution to the problems**
 - Agriculture
 - Health,
 - Environment
 - Industries
- **Enhances the value of existing technology**
 - Engineering, Informatics
- **Capacity of transforming the life of common man**
 - Better food
 - Nutrition
 - health care
 - Environment
 - wealth creation

Its need in Gujarat for solving specific issues / Problems and to enhance the value through new products / new capabilities

Possible benefits

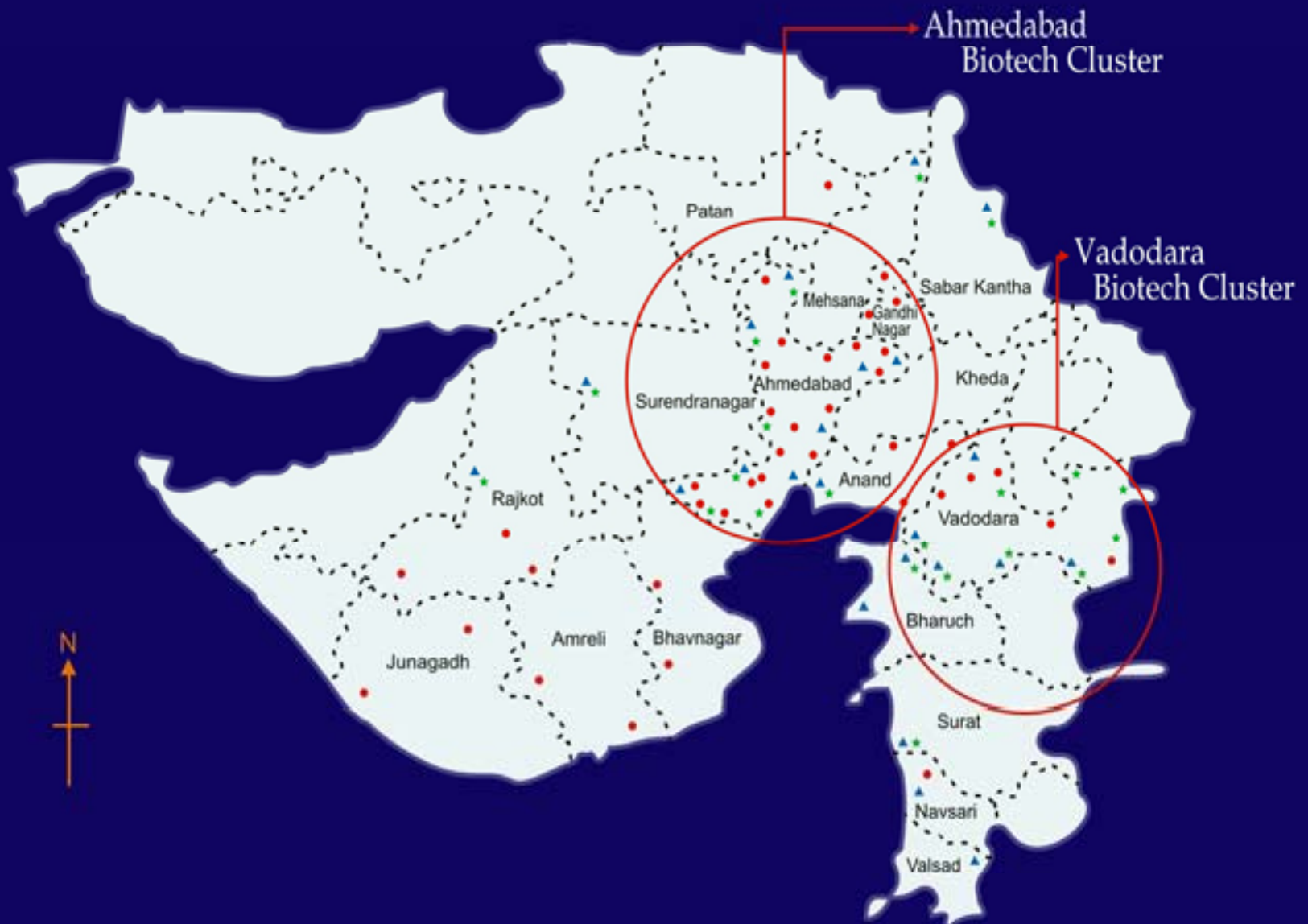
- Better and more productive utilization of resource
 - agriculture
 - Forest
 - Environment
 - Marine
 - Biological Waste
- Increased pace of economic development
- creating products for global economy using Intellectual capacity and bio-resource
- Transition into knowledge based economy.
- Increased flow investments

Why should Gujarat use BT?

- To remain in the mainstream of development through use of knowledge based economy
- It possesses the potential BT enablers.
 - Traditional base of chemical industry having strong support for convergence to BT
- Strong base of pharma sector which has to be stimulated to coverage for health care BT, innovation, technology transfer
- Exclusive strength in agriculture and animal husbandry sector
- Development of new products of global demand
- Rich bio diversity having potential for giving new molecules

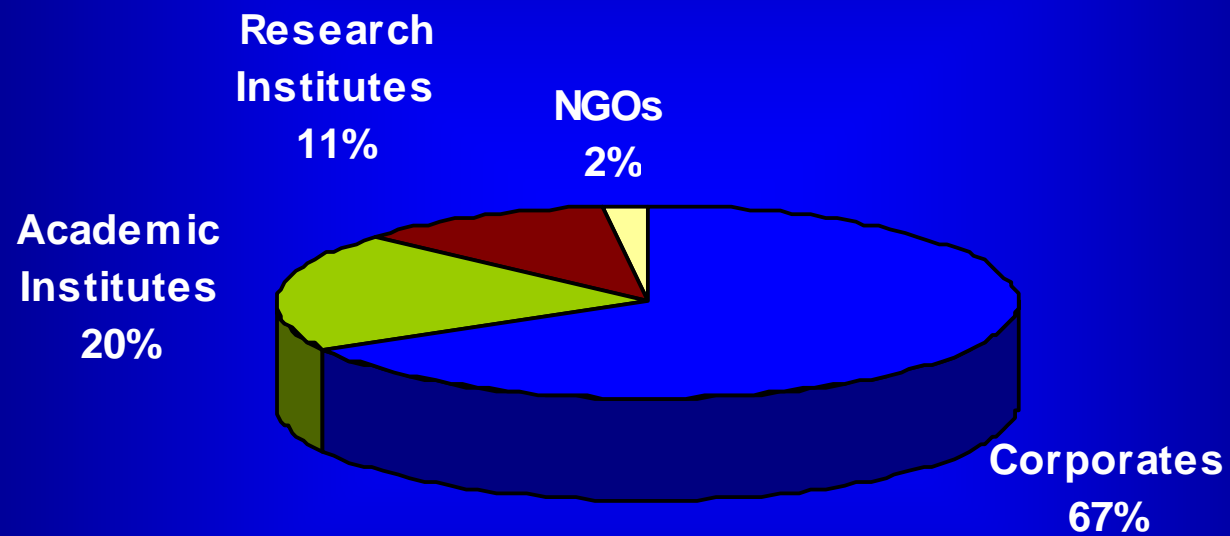
Status of Biotechnology in Gujarat

Biotechnology organizations in Gujarat

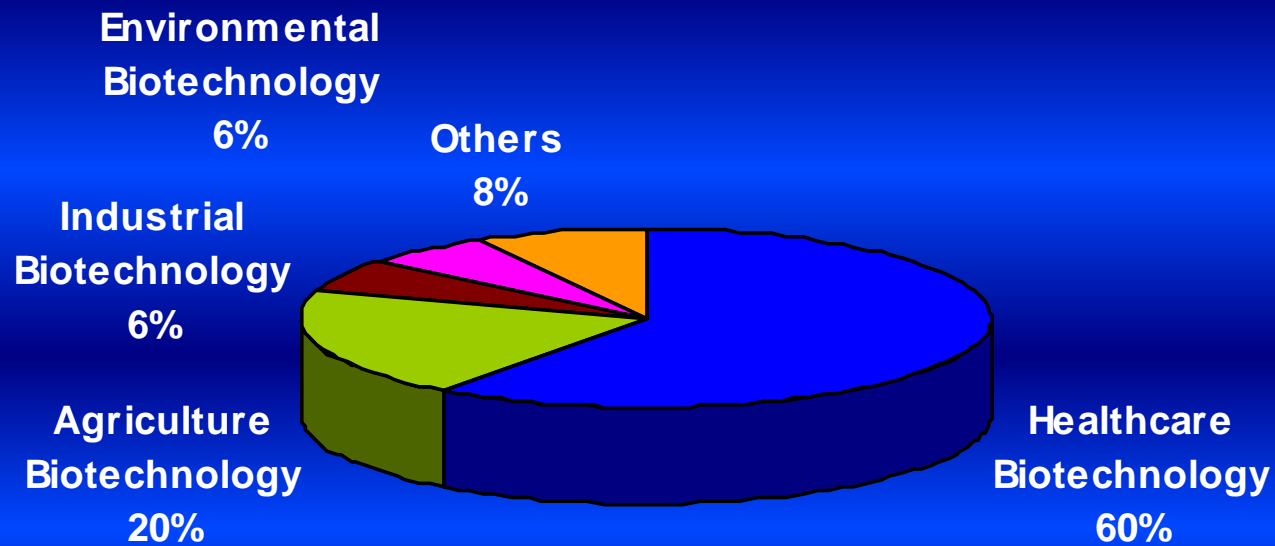


● Academic Institution ▲ Manufacturing Organization ★ R & D Organization

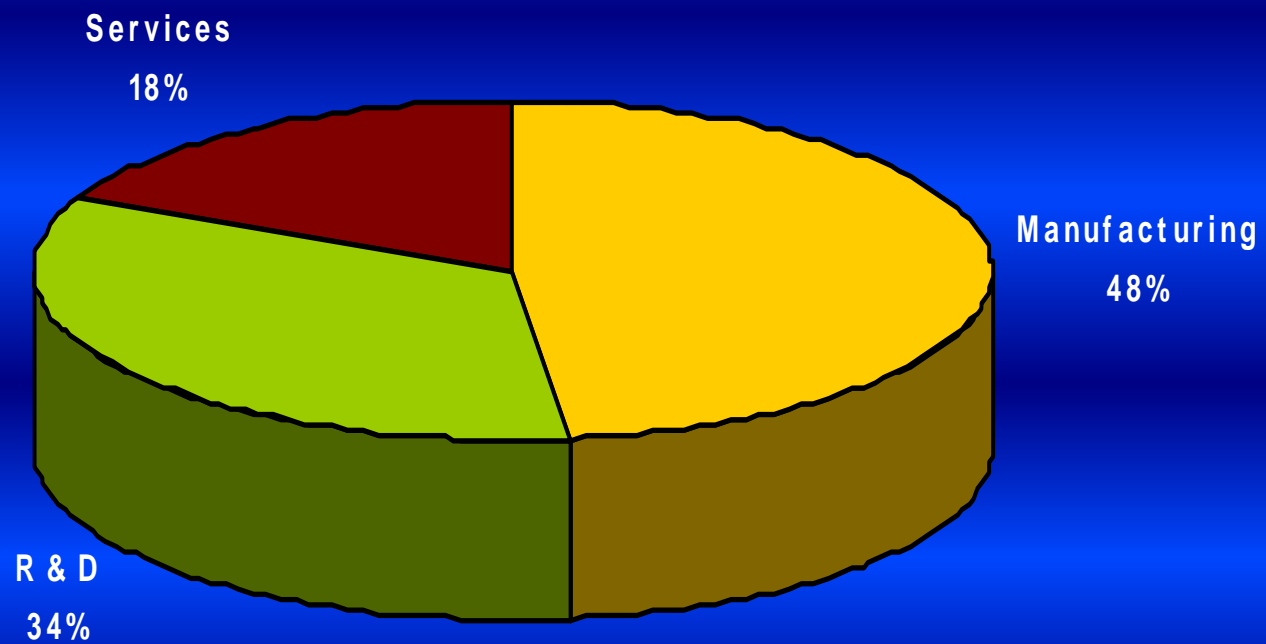
Biotechnology Stakeholders in Gujarat



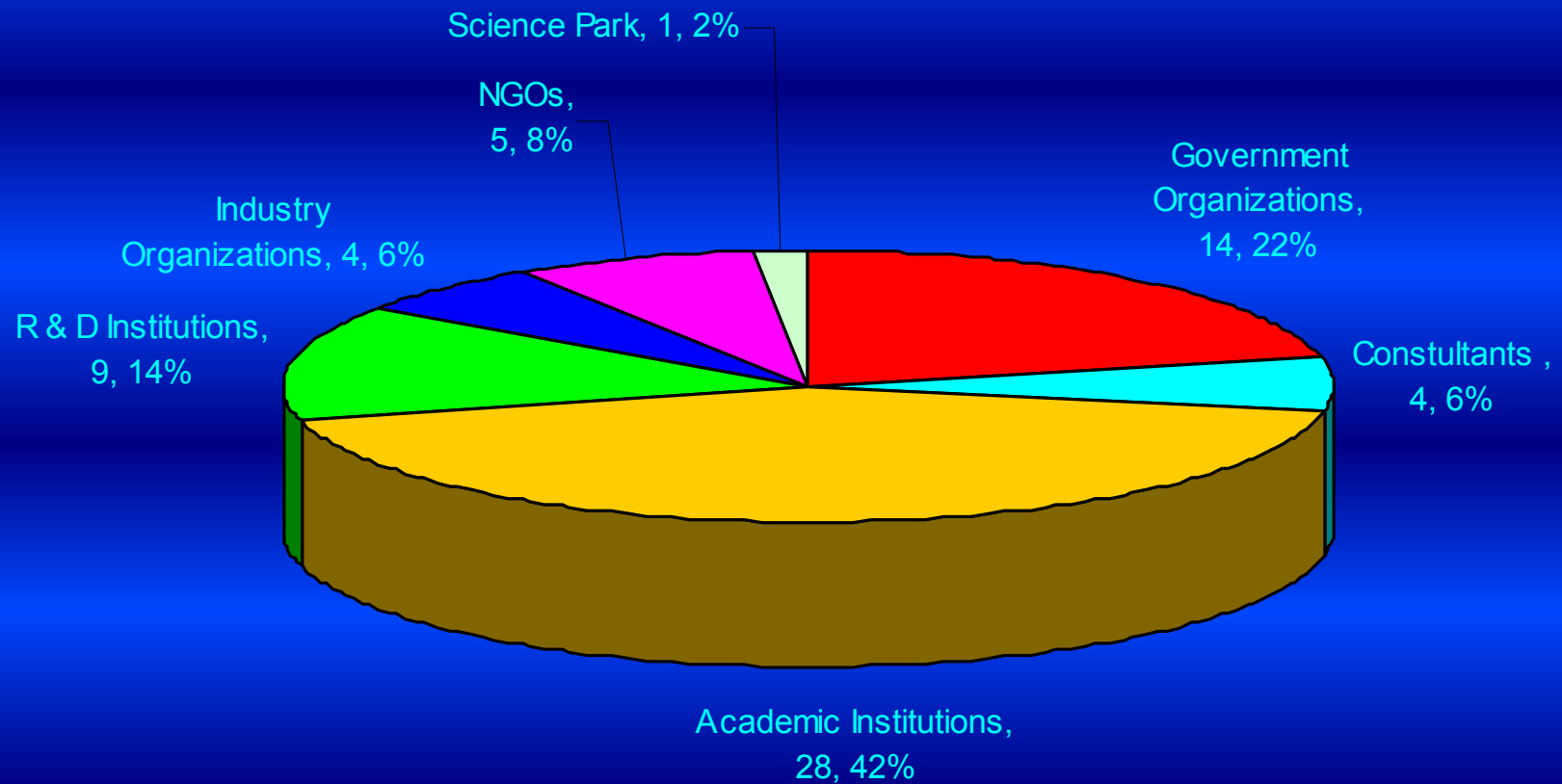
*Sub-sectoral classification of Biotechnology companies
in Gujarat*



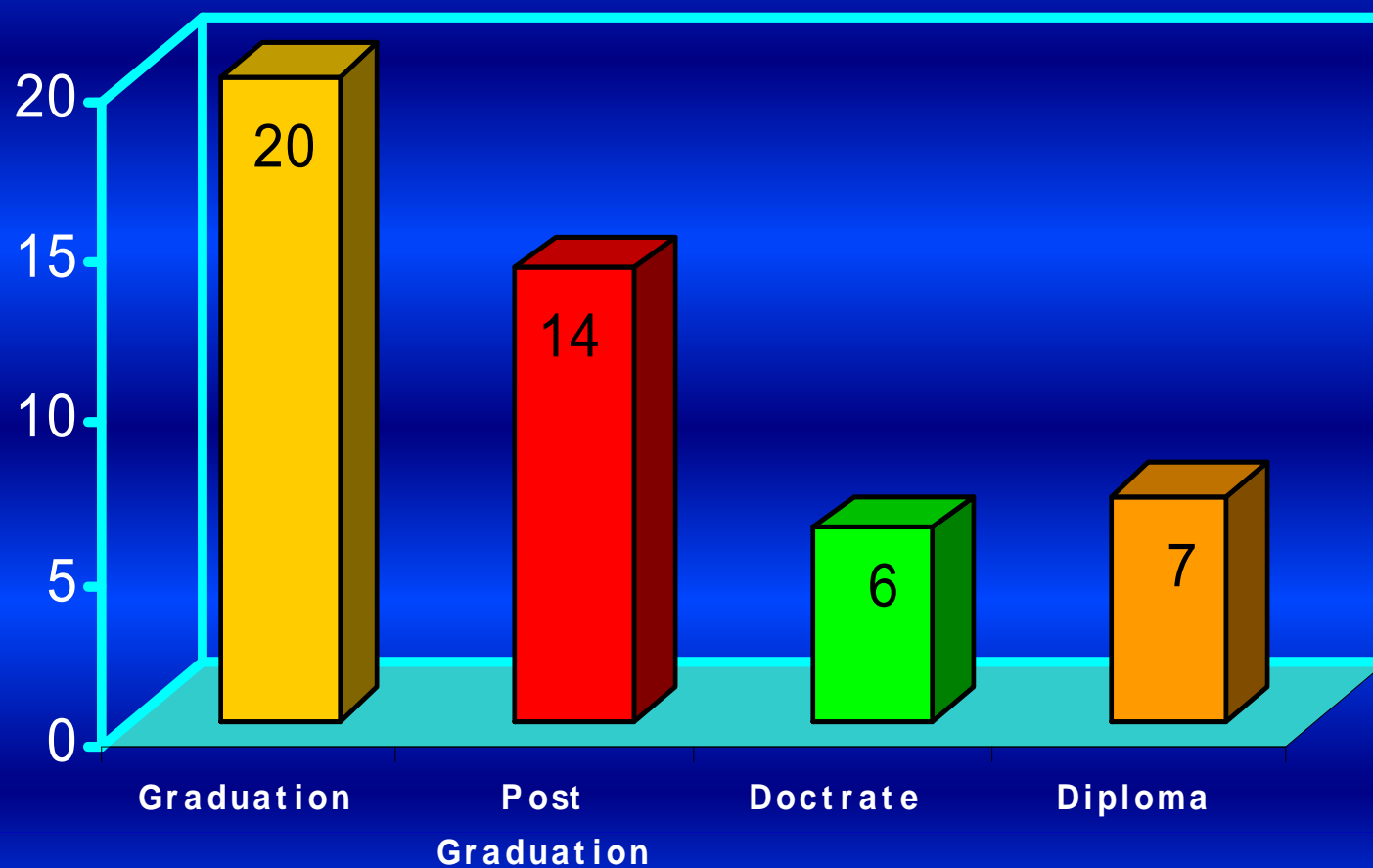
Type of Biotechnology companies in Gujarat



Biotechnology Organizations in Gujarat



*HRD- Academic Institutions offering Biotechnology/ Biology
Courses in Gujarat*



Total: 3000 Professionals / year in Biotechnology/ Biological Sciences

Turnover of BT based companies in Gujarat - 2003-04
Rs. 996443 lacs

No	Name of Company	Domestic (lacs)	Exports (lacs)
1	Amul	288196	-
2	GNFC	144684	-
3	GSFC	139974	-
4	Bayer Crop Science	87039	-
5	Sun Pharma	57637	-
6	Cadila Pharma	55000	-
7	Intas	38114	-
8	Excel Crop care	20411	-
9	Alembic	12500	-
10	Zandu	11297	-

Turnover of BT based companies in Gujarat - 2003-04

Rs. 996443 lacs

No	Name of Company	Domestic (lacs)	Exports (lacs)
11	Vadilal	11005	-
12	RPG Life sciences	9257	-
13	Chiron Behring Vaccines	7000	-
14	Quintiles Spectral (India)	6255	-
15	Torrent Gujarat Biotech	5860.27	3267.23
16	Bayer Diagnostics India	5370.3	-
17	Comed Biotech	3737	-
18	Span Diagnostics	3351.19	137.94
19	Zydus Cadila	1772	-
20	Maps (India) Ltd.	1514.71	151.14

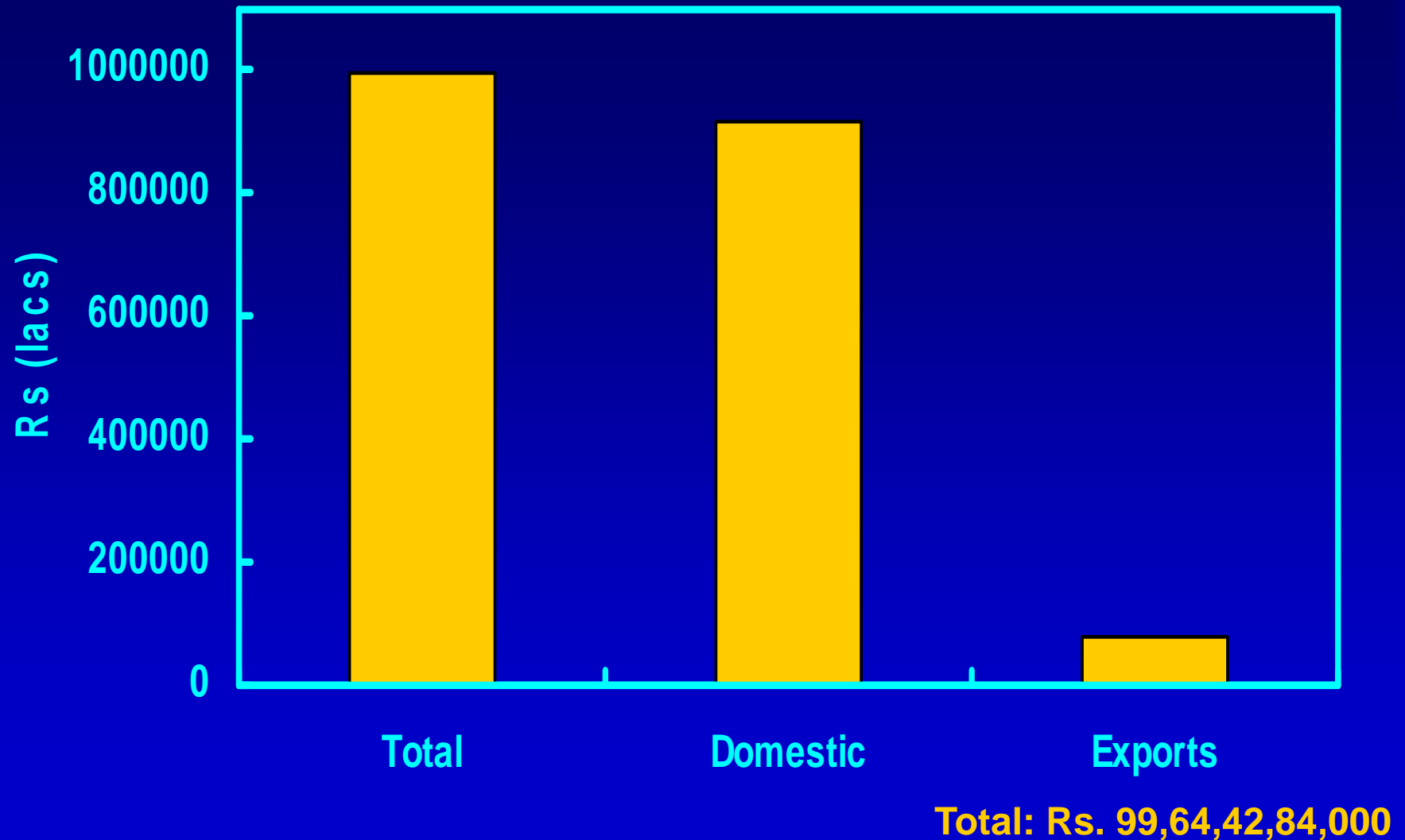
Turnover of BT based companies in Gujarat - 2003-04

Rs. 996443 lacs

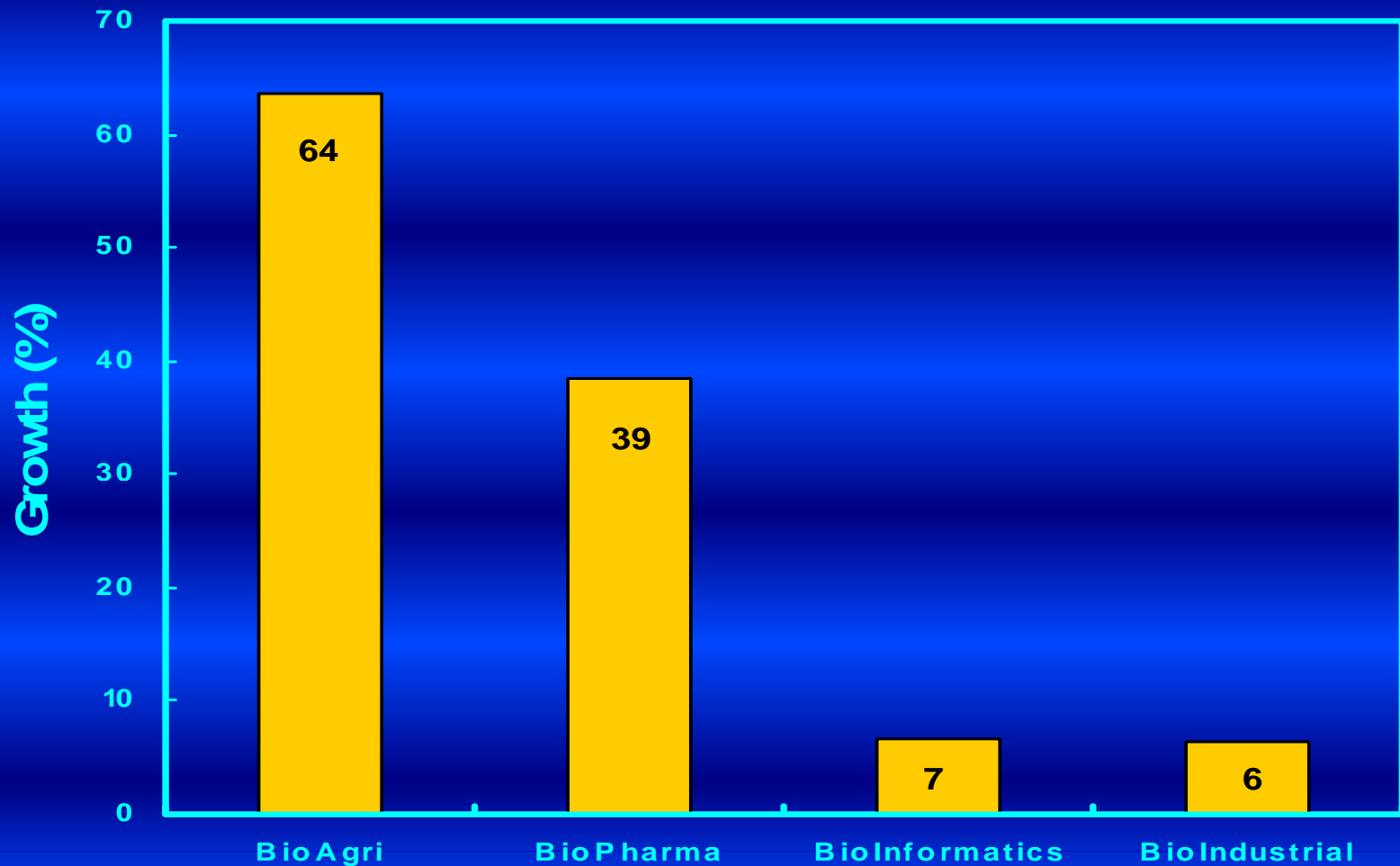
No	Name of Company	Domestic (lacs)	Exports (lacs)
21	Ban Labs Ltd.	1165	-
22	Claris Life sciences Ltd.	1081.8	-
23	Associated Environmental Engineers Pvt. Ltd.	1000	-
24	Hester Pharmaceuticals	768	-
25	Jai Research Foundation	768	-
26	Beacon Diagnostics	625	10
27	Anil Biochem Ltd.	376.16	8.1
28	Concord Biotech Ltd.	300	600
29	Ambalal Sarabhai	300	300
30	Synchron Research Services	50	500
31	Sienna Biotech	50	-
32	Ayushi Biotech	10	75000
	Total	916468.43	79974.41

Turnover of BT based companies in Gujarat - 2003-04

Rs. 996443 lacs



Growth of Biotechnology - 2004

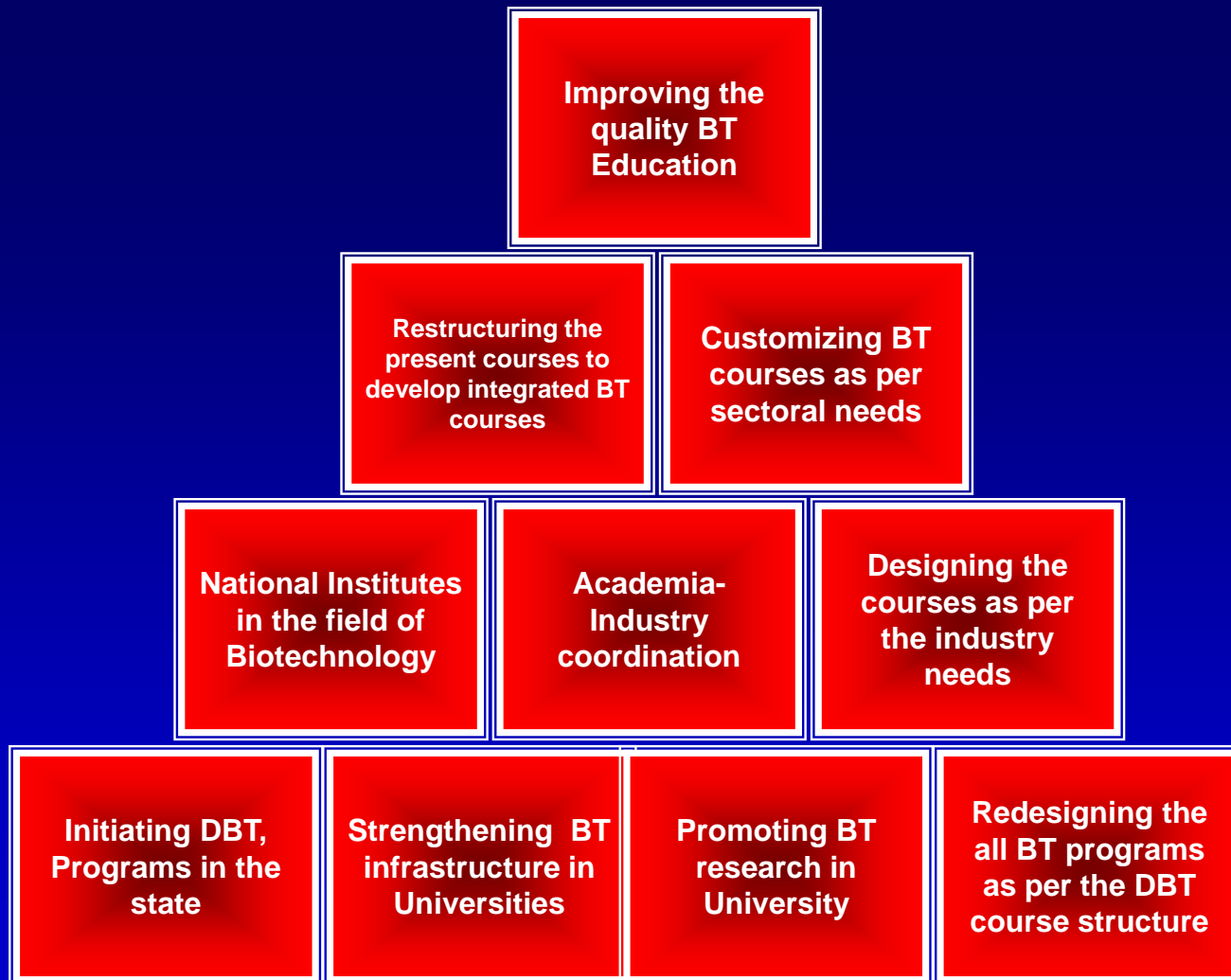


BioSpectrum-ABLE survey 2004

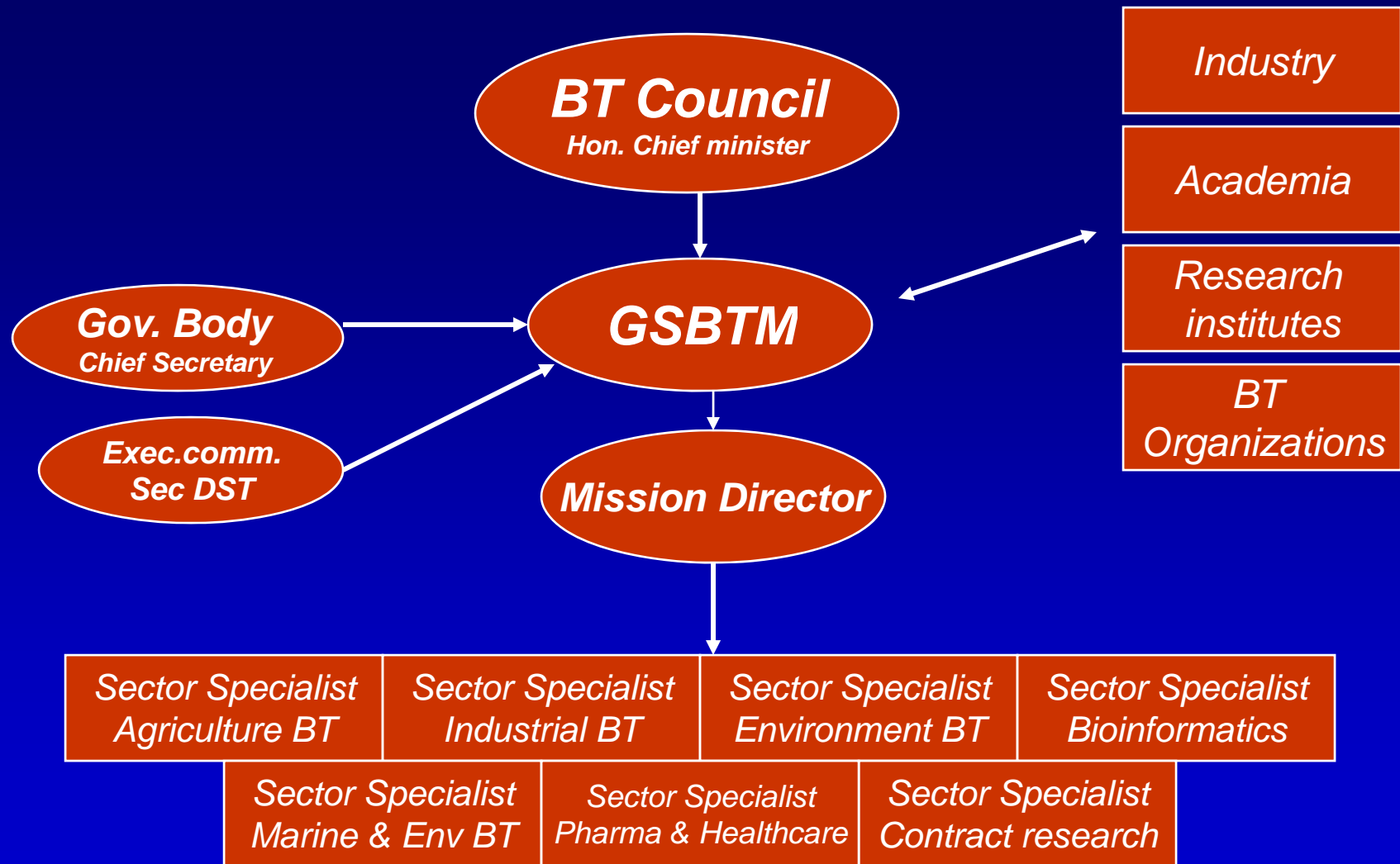
BT - issues

- Biotechnology as a strategic science
- Need for legal and policy support for biotechnology
- Approach towards high-end biotechnology
- Availability of quality human resource
- Availability of quality research and industrial infrastructure
- Need for industry oriented solution based research and innovation
- Need for incentives for Biotech Business and Growth

BT Human resource - issues



Organizational Structure





Objectives

- To promote, support and facilitate the overall development of Biotechnology in the state.
- To provide institute, legal financial and policy support.
- To facilitate networking among stakeholders at Regional, National and International level.
- To facilitate the infrastructure development and R & D activities.
- To create scientific awareness, sensitization, socio-ethical acceptance and adoption to the potentials and application of biotechnology.





Activities / Accomplishments 2004-05





Tasks - 2004-05

- Promoting Biotechnology
- Institutional development:
- Policy Initiatives
- Promoting BT entrepreneurship:
- Biotechnology Infrastructure development (BT Park)
- Supporting Research infrastructure development in Biotechnology (Centre of Excellence)
- Supporting Biotechnology research
- Human resource Development
- Facilitating and networking





Promoting Biotechnology

➤ Participation in national Events

- Participation in the Bangalore Bio- Event having big International and National presence

➤ Participation in State Events

- Co-organized Bio-Gujarat Event which saw big participation from various states, GOI and many corporate.
- Participated in National Science Congress and Vibrant Gujarat event, representing Biotechnology sector of the state
- Biotechnology investment facilitation, and bringing to the forum and light, the increasing investments by the BT industries in the state, as reflected by the expansion plans declared by seven such industries, who also signed MOU on the occasion of Global Investor summit, at Vibrant Gujarat Event, 2005

➤ Conduction of state level seminars

- Seminar on HRD development in Biotechnology, in collaboration
- with Higher technical education department, GOG





Promoting Biotechnology

➤ **Conducting Popular Lecture series**

- Four lecture series were conducted,
- speakers
 - Dr. Lalji Singh of CCMB
 - DR. Eleneore Wurtzell, of US Science research Foundation,
 - Dr Mulchand patel from SUUNY Buffalo university New York
 - Dr. Ramchand from Kemin India Chennai

➤ **Documentation & information Dissemination**

- Interactive CD's of Biotechnology organizations in Gujarat
- Heroes & Milestones in Biotechnology history
- Investment opportunities in Gujarat
- CD on Plant Genomics

➤ **Branding & Information material**

- Calendar & planner
- Distribution to research institutions,
- Professionals and corporates related with biotechnology
- Brochures for GSBTM, Investment opportunities and BT education in Gujarat. The same were distributed at Bangalore Bio, Bio Gujarat, Vibrant Gujarat, and other events.



Institutional development

➤ Establishment of GSBTM

- Preparing the MOA
- Registration of GSBTM as society





Policy Initiatives

- Preparation of Draft Incentive Biotechnology policy, which is highly competitive and has incorporated all the important features needed for BT industries, submitted to the state government for consideration and approval.





Promoting BT Entrepreneurship

- Establishment of Gujarat Biotech venture Fund of Rs. 50 crores, with initial corpus of Rs.10 crores as state govt. share and remaining through other financial institutions agencies, corporate etc.
- Rs. 5 crore is to be provided in 2004-05 & Rs 5 crore in 2005-06
- The amount of Rs 2 crores has been given as loan amount to Gujarat Venture finance limited
- Financial incentive for BT Industries & entrepreneurs
 - Prepared as part of incentive package





Biotechnology Infrastructure development (BT Park)

- Revalidation of Central Grant, of Rs 15 crore,
 - Granted under Additional assistance Scheme, Planning Commission,, GOI, for development of Gujarat biotechnology Park,
- Appointment of Ernst and Young, as consultants Consultants for selection of Private partner for BT Park under , Private-Public partnership,
- Putting the procedure on fast track,
- The issue has been pursued and being coordinated with GIDC, and other stakeholders. Since Aug, 2004, several meetings have been conducted to sort out the various issues, critical for the Biotech park
- Bidding for Bio IT Park under STPI scheme:..
 - GSBTM has made its bid, jointly with Creative Infocity, for Country's first BIO-IT Park in India.





Supporting Research infrastructure development in Biotechnology

- Framing of Guidelines and Performas for financial assistance for research and development projects and establishment of centre of excellence in Biotechnology
- Financial Support, provided for establishment of Centre of Excellence in Biotechnology
 - Centre of Excellence in Marine Biotechnology
 - Centre for genomics
- Sanctioning of Major and Minor Research and Development projects
 - 11 research projects have been sanctioned
 - Total cost of Rs. 452.58 lacs
 - Grant of Rs. 84.70 lacs has also been released in the year 2004-05

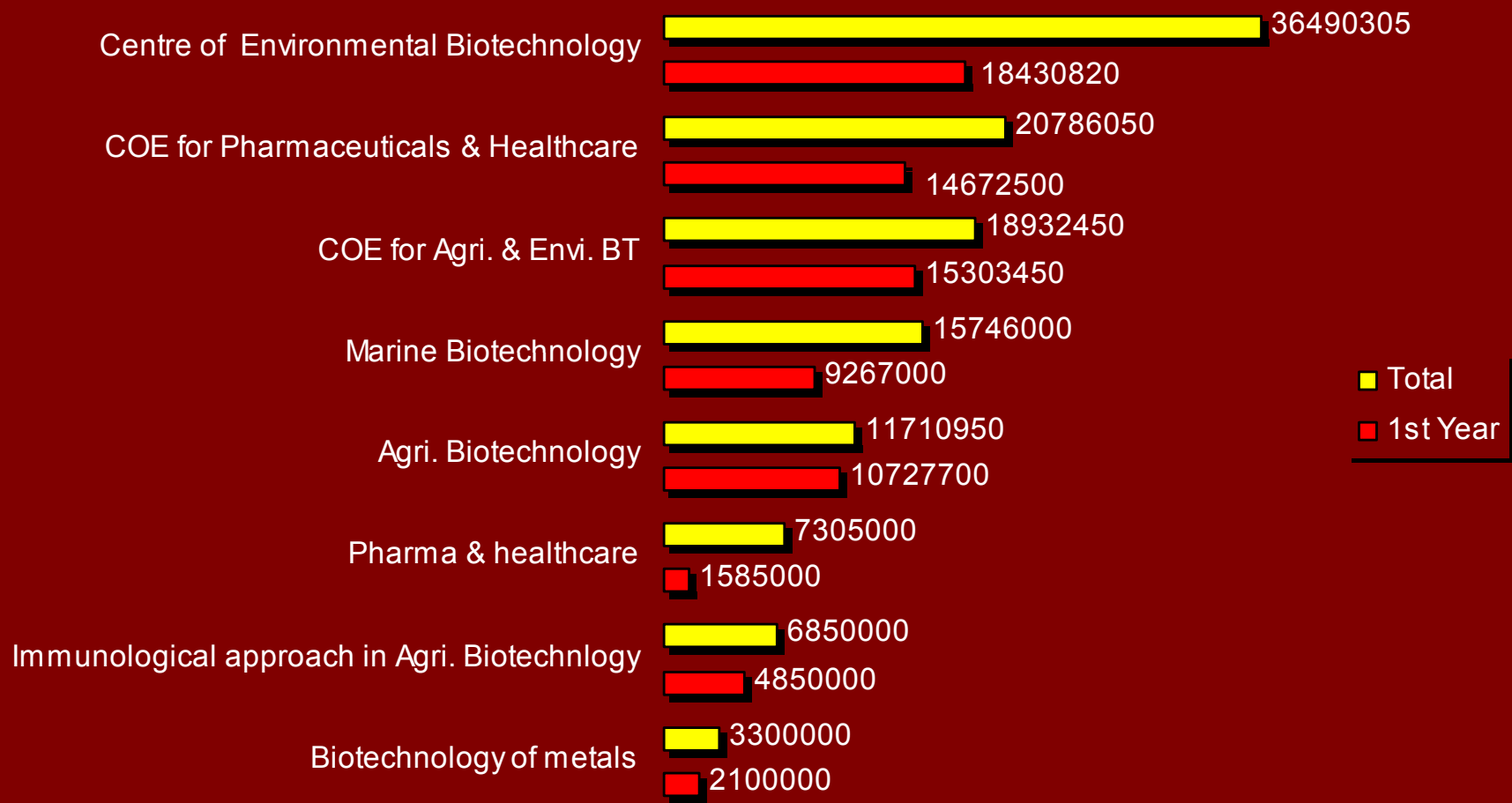


PROJECT PROPOSAL DETAILS

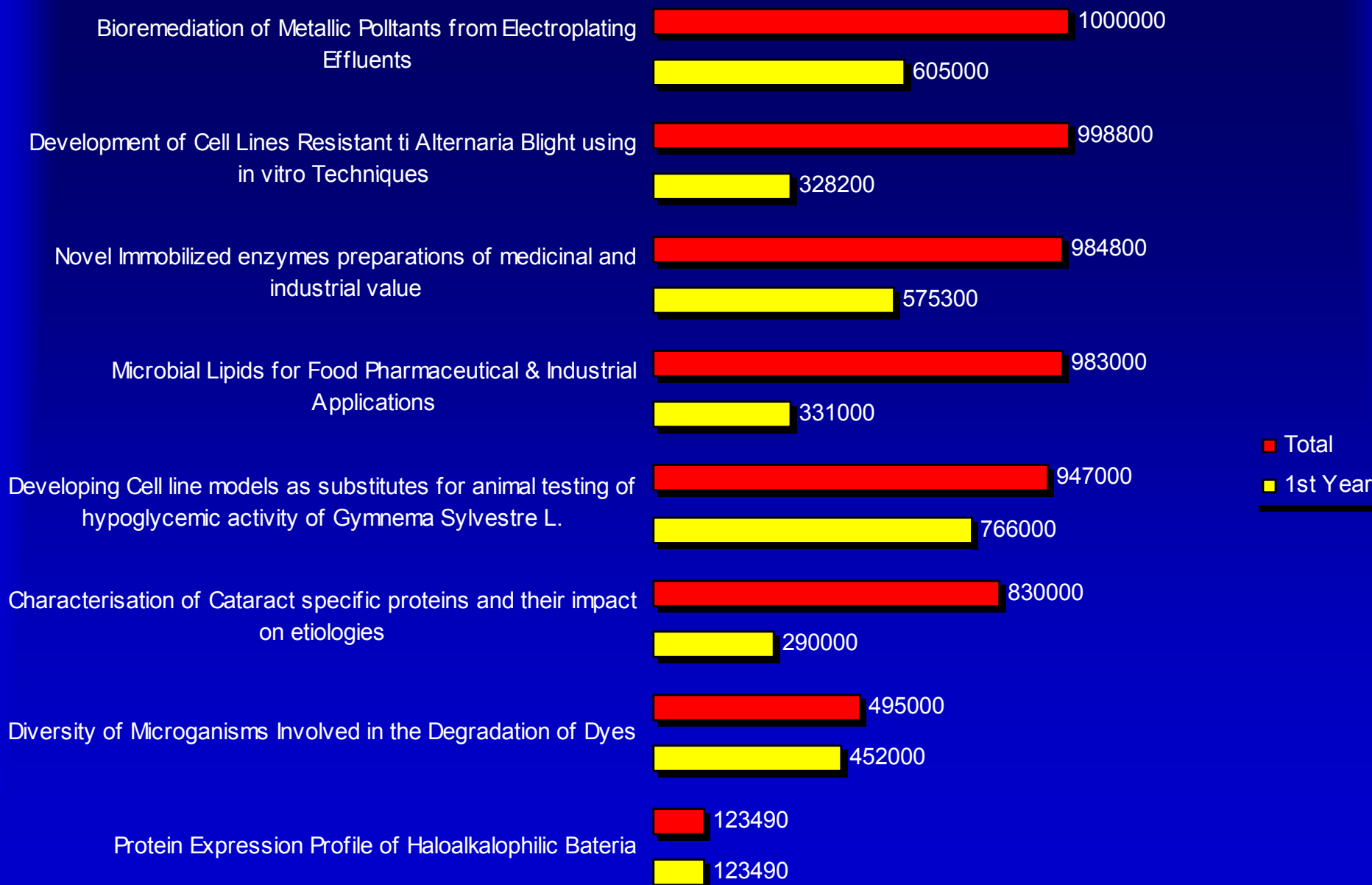
Category	Proposals	Amount
COE	8	Rs.12,11,20,755
MAJOR	9	Rs.3,03,22,050
MINOR	8	Rs.1,27,24,180
OTHERS	6	Rs.9,27,000
TOTAL	31	Rs.16,50,93,985

Centre of Excellence Proposals

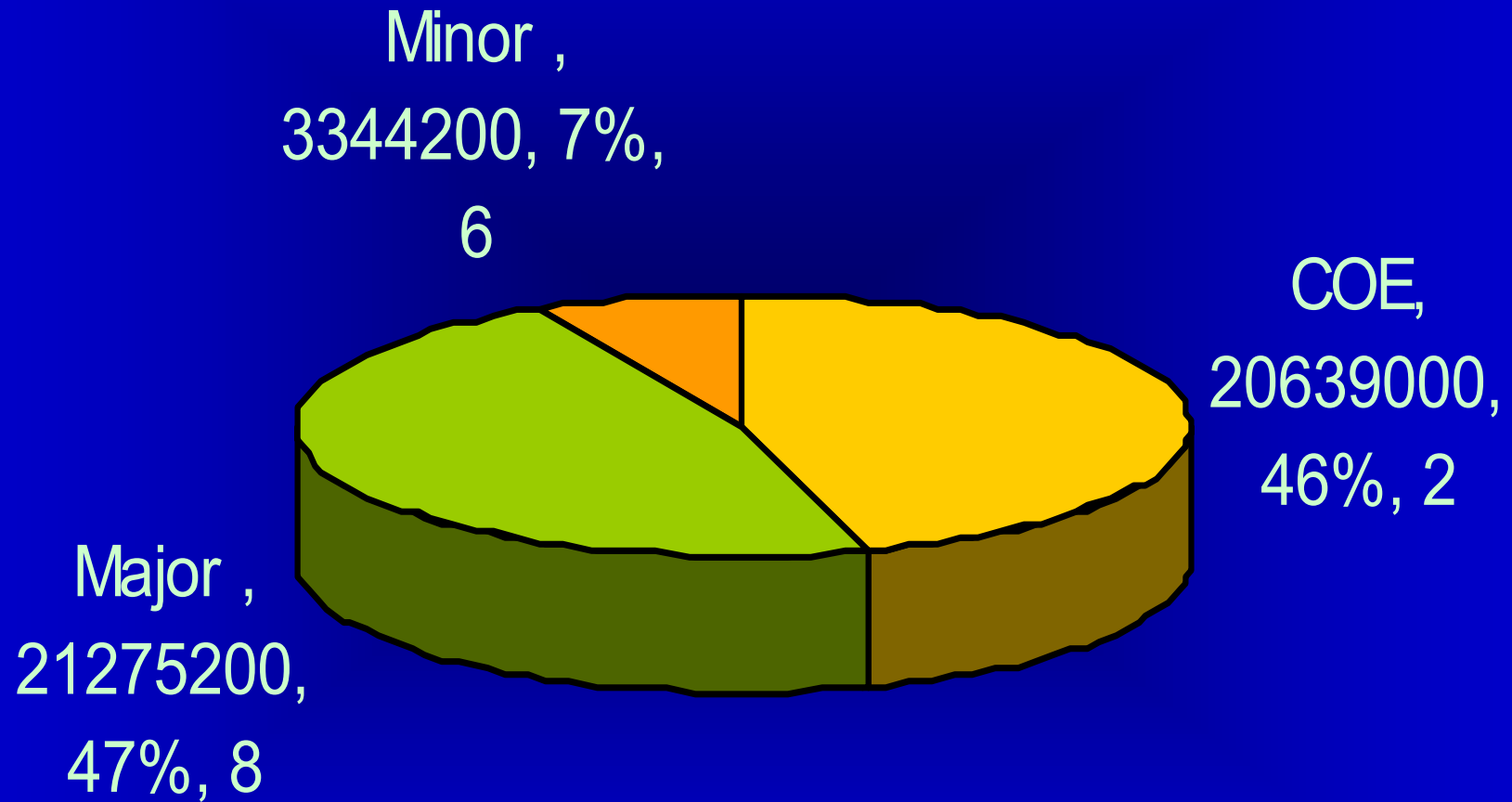
CENTRE OF EXCELLENCE



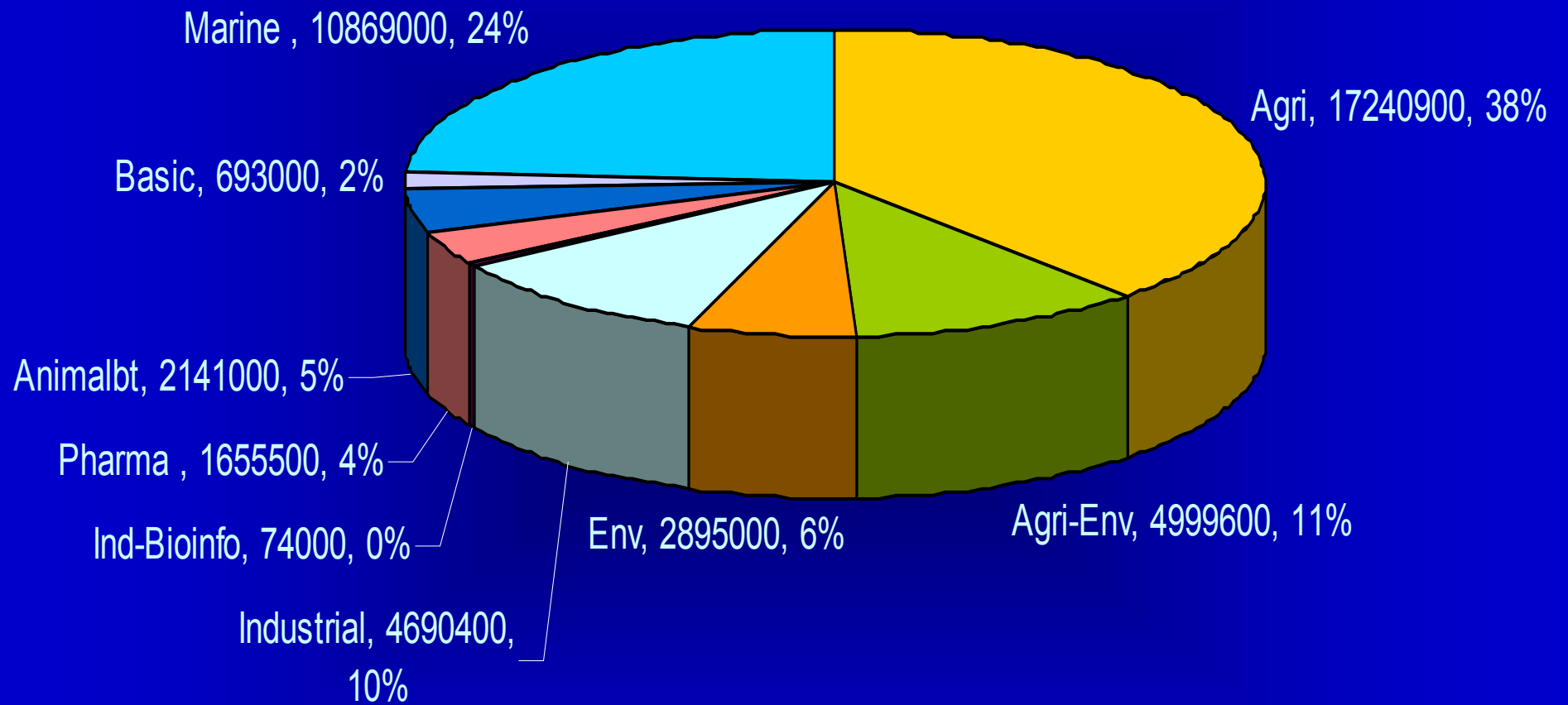
Minor Research Projects



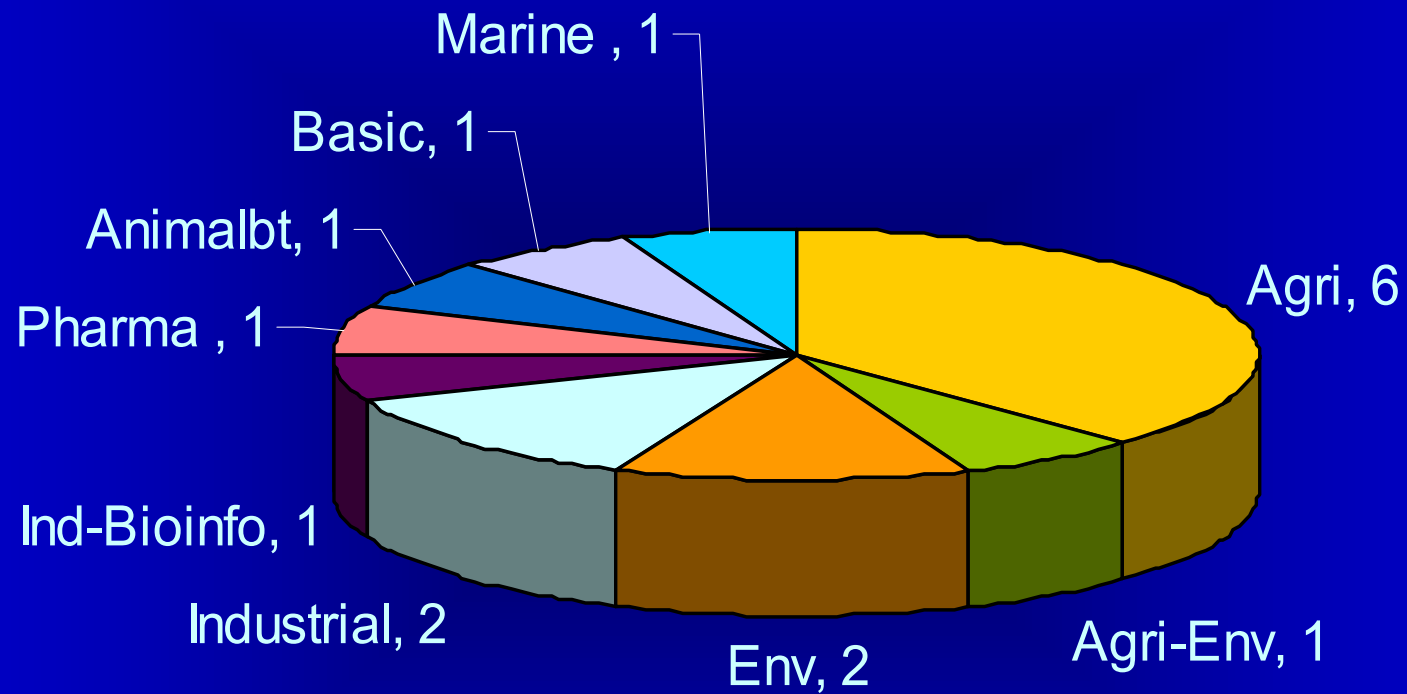
Financial assistance in GSBTM R & D Projects



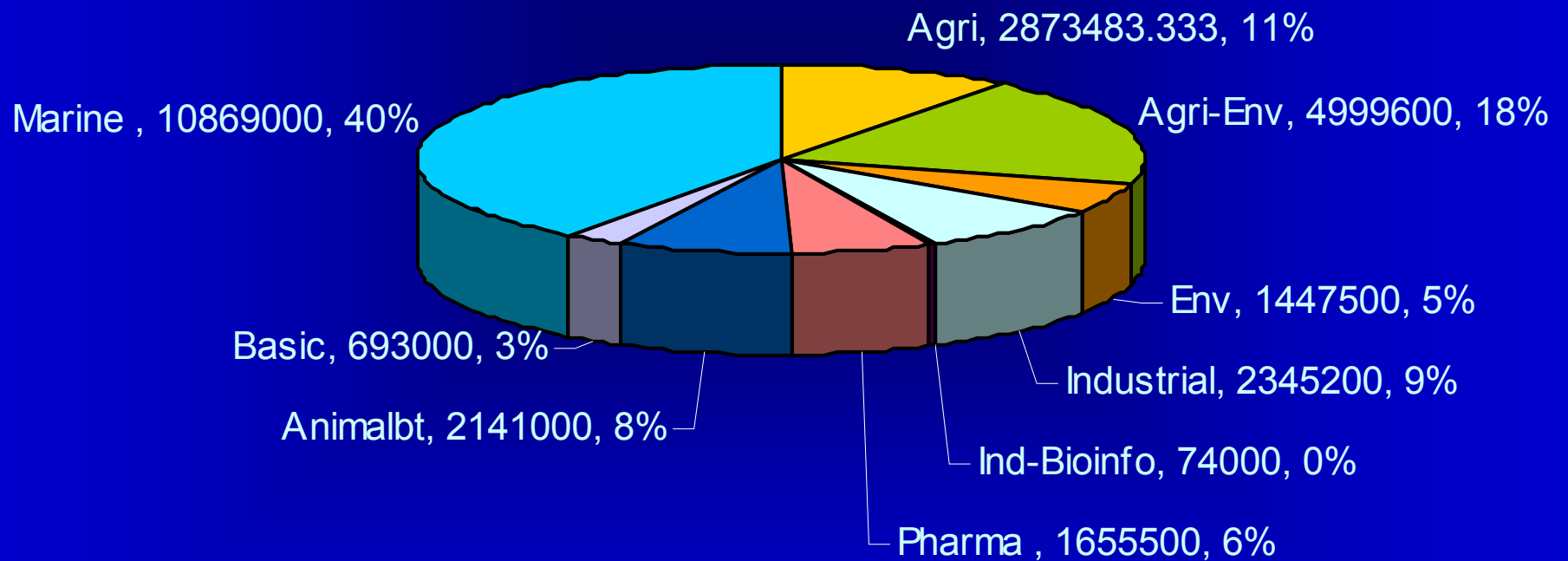
Sactoral Classification



Sactoral Classification - No. of Projects sanctioned

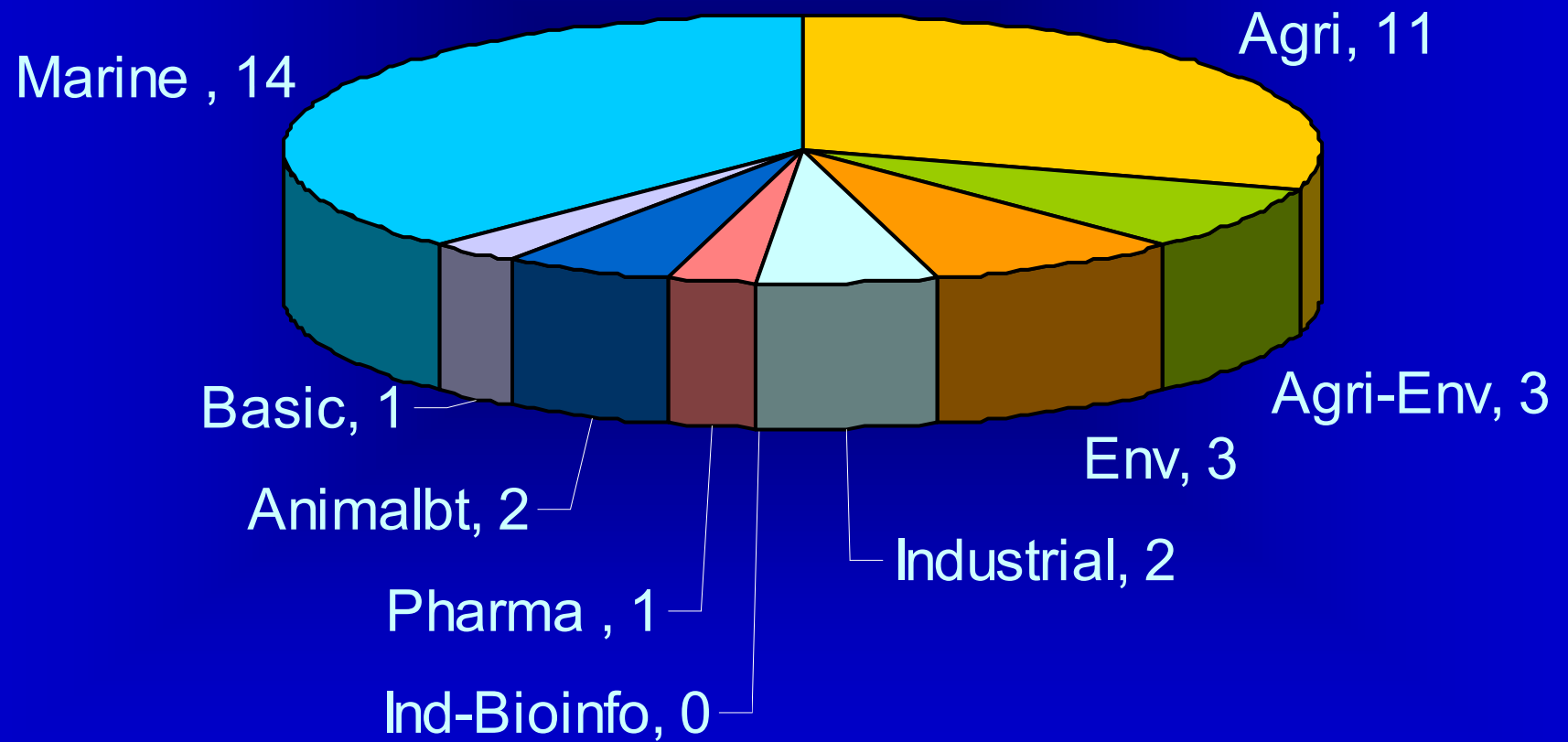


Avg Amount sanctioned / project

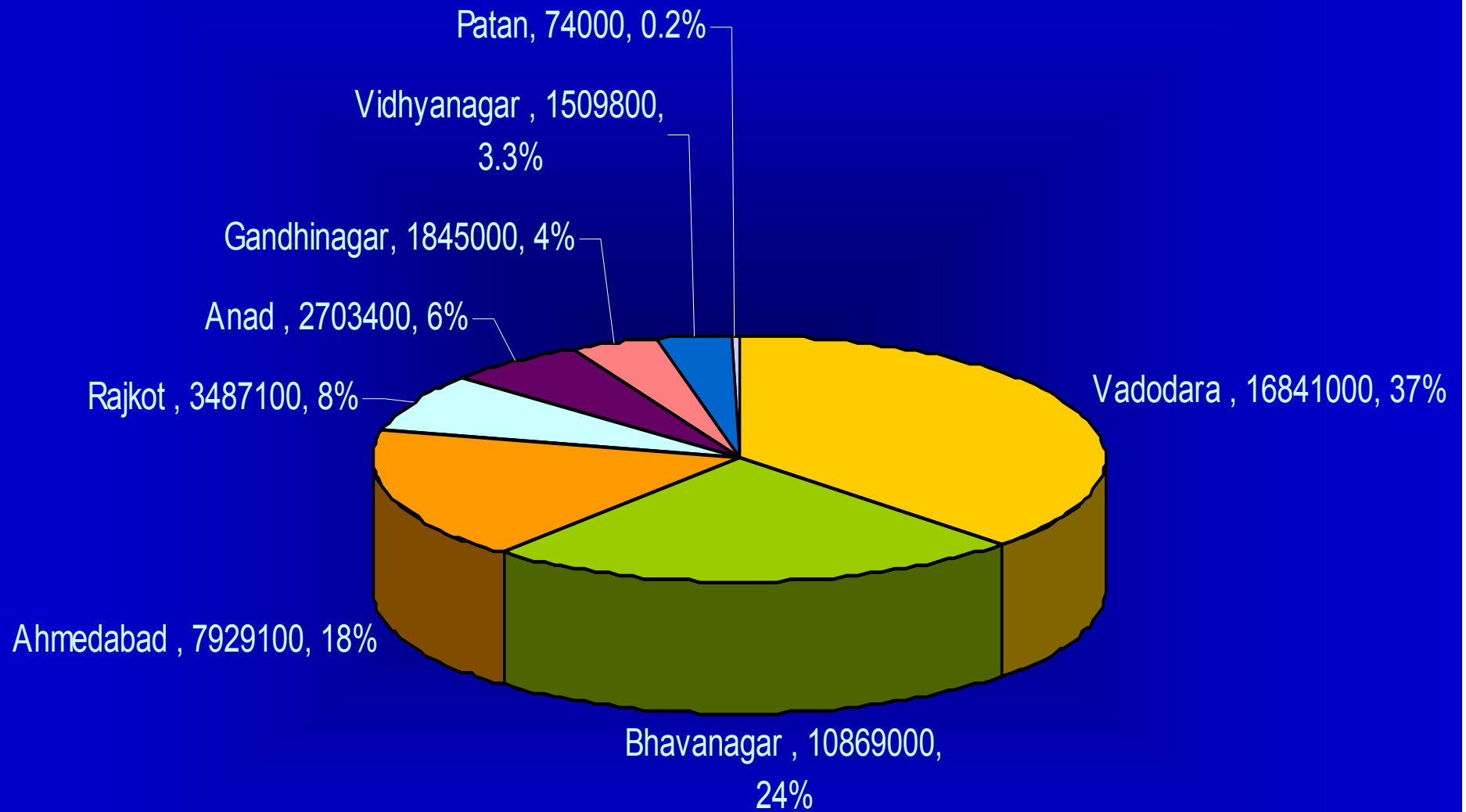


Human Resource Development

37 JRFs Appointed for 2-3 years



City wise classification of GSBTM Projects





Human Resource Development

- 37 JRFs / SRFs / RAs will get GSBTM Research Fellowship in GSBTM Research and Projects
- Seminars/ workshop were supported in year 2004 - 2005
 - Seminar on New Drug delivery system PERD Centre, Ahmedabad
 - Workshop and Seminar on Molecular Biology by Department of Biochemistry, MS University of Baroda
 - Chemzole 2005 organized by Department of Chemical Engineering, NIRMA University, Ahmedabad





Facilitating and networking

- Preparation of Compendium,
 - The, product, first ever by any state, was released By H'ble Chief Minister of Gujarat state at the occasion of Bio-Gujarat event. Distributed to industries, research Institutions and organizations involved with BT, within state and outside state,
- Preparation of Analytical report,
 - As a facilitating mechanism for present and future investor and collaborators, both at state, regional, National and International level, an analytical report, was prepared and got released by Secretary, DBT, GOI at Bio- Asia event,
- Indo-Canadian Convention,
 - To facilitate industrial collaboration and business partnership, a workshop was organized through Indo- Canadian collaboration. The workshop resulted in business partnership between a US based company, Synegics and big CRO group Synchron
- Brain storming session on Bio-informatics
 - To facilitate the collaboration of institutes having expertise in Bioinformatics, a brainstorming session was kept, involving C-DAC, Pune, Pharmaceutical companies, academia etc.

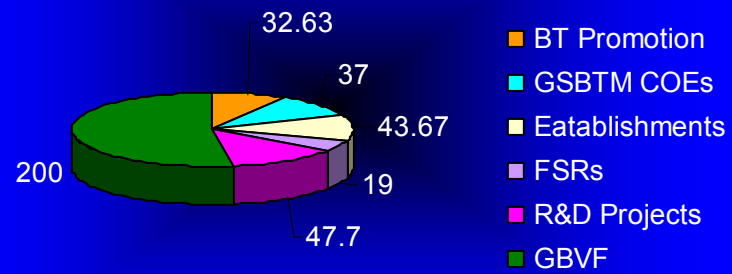




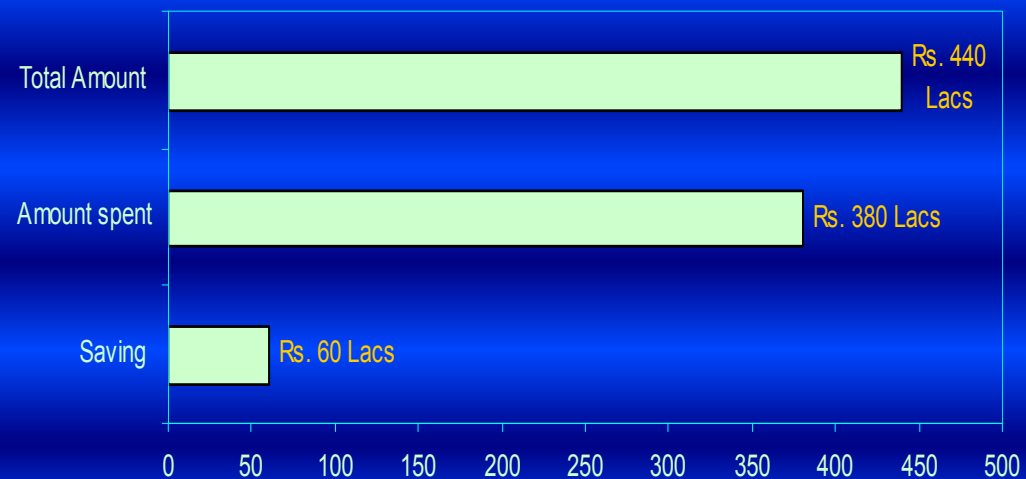
Break up of expenditure

Total	-	Rs 440 lac
Amount spent	-	Rs 380 lac,
Saving	-	Rs 60 lac,

GSBTM Expenditure Details



Budget Details 2004-05



GUJARAT STATE BIOTECHNOLOGY MISSION

Head wise Expense Details

Sr.	Activity	Budgeted Amt.	Total Expense
A	Promotion of Biotechnology Sector in Gujarat		
1	Participation in National Level Event		
2	Conduction of National and International		
3	Conduction of State Level Seminars/Event		
4	Conduction of Popular Lecture Series		
5	Dissemination of Information, documentation,		
	Sub Total.....	70.00	32.63
B	Setting up of Institute of Bioinformatics in	10.00	
C	Setting up/Supporting Centres of Excellence of	150.00	37.00
D	Setting up of the Office of the State		
1	Establishment Expense		
2	Office & Equipment Expense		
3	Land & Building		
	Sub Total.....	105.00	43.67
E	Preparation of Feasibility study and project	5.00	19.00
F	Promotion of Individual Research Projects/Study in the area of Biotechnology		
1	Financial support to Major & Minor Research Project		
2	Financial Support to Database In-house Research Project		
3	Finance support to Institute/Agency for conducting Seminar.		
	Total	100.00	47.70
G	Promotion of Biotechnology Venture Finance		200.00
H	Establishment of Biotechnology Park		
I	Financial Incentive For Promoting BT Industry & Entrepreneurship		
	Total	440.00	380.00



Strategy For 2005-06





Strategy 2005-2006

<i>Policy planning, support and strategic initiatives</i>	<i>Biotechnology infrastructure development</i>	<i>Biotechnology research, innovation support development</i>
<i>Biotechnology Human resource development</i>		<i>Promoting BT entrepreneurship</i>
<i>Coordination and facilitation</i>	<i>Event Participation</i>	<i>Promotion of Biotechnology</i>





Policy Planning, Strategic Initiatives

- **Policy Planning, preparing Policy proposals on Biotechnology and related issues**
 - Meeting, interaction, workshop, draft preparation, web hosting, printing etc
- **Building of strategic roadmap and sector specific plans, thematic plans**
 - Meeting, interaction, workshop, draft preparation, web hosting, printing, visits etc
- **Market research, analysis, database development, report preparation**
 - Development of database of research in BT in Gujarat
 - Development of database of manpower in BT in Gujarat
 - Development of database of technologies in BT in Gujarat

STRATEGY
2005-2006





BT Infrastructure Development:

- **B.T.Park**
 - Development and operationalization of BT park, Vadodara
 - Preparation of Projects on Agro-BT, Marine BT & Food BT park (Consultancy basis)
- **Development of incubators**
 - Preparation of projects for Agri & Marine biotech incubators
 - Providing financial support
- **Development of Sector specific infrastructure**
 - Developing state wide facilities for HLA registry
 - Developing chord blood bank facilities
 - Developing skin bank and skin culture facilities/animal house facility
- **Development of New Institutes (*Project Preparation*)**
 - Institute of Nano biotech - project prop.
 - Institute of DNA finger printing
 - Institute of Plant genomics
 - Institute of clinical res. Excellence
 - Institute of bioinformatics
 - Institute of new drug delivery
 - Institute of marine biotechnology
 - Providing Financial support

STRATEGY
2005-2006





Supporting Biotechnology research

- **Preparation of Research priorities and research Action plan for different sectors**
 - Workshop, drafts preparation printing etc
- **Support in biotechnology research**
 - Support to ongoing projects
 - Support to new projects
- **Establishing and supporting of COE in different sector**
 - Support to existing COE
 - Support to new COE
 - Project proposal for COE on , chick pea jatropha, castor
 - Project proposal for COE in stem cell research & DNA fingerprinting
 - Financial support for Est. of COE as above
- **Patent facilitation cell**
 - Workshop-seminar, literature preparation for the same,
 - Establishment of patent cell

STRATEGY
2005-2006





Human Resource Development

- **Support to New training programme / HRD courses**
 - PG courses in IPR clinical research, Agri BT, Medical BT
- **Specialized capsule courses**
 - BT entrepreneurship dev.
 - Agriculture business
 - Summer courses with industries
- **Value addition / skill development programme**
 - Training Programme in specialized areas / by specialised institutes
- **Support of upgrading BT educations**
 - Services and networking with professionals and experts
- **Support to doctoral and post doctoral fellowship**

STRATEGY
2005-2006





Promoting BT Entrepreneurship

- **Consolidation of Gujarat BT venture fund, contribution to corpus fund,**
- **Financial incentives to BT industries**
- **Technology facilitation**
 - Establishment of Technology cell for providing facilitating and networking services,
 - collection, compilation of data of developed / technologies available in various area at National & International level, , preparation of interactive format
- **Business guidance, promotion, project preparation, feasibility studies**



Coordination and Facilitation

- **Supporting stakeholders coordination**
 - Conducting Workshop of BT stake holder
 - Annual meets
- **Resource centre and documentation**
 - Compilation of Policies, Acts, rules, schemes provisions for common accessibility,



Event Participation

- Participation in International exhibition, conference
- Participation in national exhibition, conference
- Conduction of national exhibition, conference



Promotion of Biotechnology

- **Popular lecture series.**
 - Five such lectures
- **SATCOM series**
 - SATCOM lectures through networking and telecast of lectures of universities and visiting professionals,
 - SATCOM learning programme including distance learning prog.
 - SATCOM Seminar, through networking and telecast of University programs, through SATCOM six programme
- **Conduction of state level seminars**
 - Sector specific 5 seminars,
- **Awareness generation & information dissemination.**
 - Use of mass media, conducting TV panel, discussion, covering diff. sectors and various relevant themes,
 - Systematic program of Articles in Newspaper / print media
 - Bringing out electronic newsletter,
 - Establishment of Web cell / Virtual information cell, interactive information - web based surveys, analysis
 - Preparation of branding & information material (Calendar & Planner, Brochures)
 - Documentation of Biotechnology work & strengths, Preparation of docum TV programmes,

STRATEGY
2005-2006



Priority Tasks for first quarter of the 2005 - 2006

- Road show for Biotech Park, (June)
- Showcasing for BT venture Fund, (June)
- Brain storming session with DBT for IIBT, (June)
- Brain storming session for Biotech strategic action plan for Agriculture, (June)
- Brain storming session for course curriculum for IPR in BT, (May)
- Meet with DBT regarding strategic planning for Biotechnology in Gujarat, (July)
- Brain storming session for strategic action plan in food biotechnology, (July)
- Brain storming session for Biotech strategic action plan for Animal husbandry, (July)
- Conducting workshop for stem cell research in Gujarat, (July)
- Preparing the Biotech Policy, (June)
- Preparing the proposal for Marine Biotech Institute, (May)
- Preparing the concept paper for BT funding from JBIC, (July)
- Preparation of integrated project on Date Palm
- Preparation of projects for PG Courses in Agriculture, Animal, Food and Marine Biotechnology
- Project for Centre of Excellence in Castor



*Transcribing Brighter **Bio** Future*

*Transcribing Brighter **Bio** Future*

Thank you





GSBTM

Transcripting Brighter Bio Future

