



R F D

Results Framework Document
for
Department of Science and Technology

(2010-2011)

Section 1: Vision, Mission, Objectives and Functions

Vision

To enable India becoming a global knowledge power by promoting basic research, development of cutting edge technologies and innovation for globally competitive and inclusive growth to power technology-led economic progress of the society.

Mission

To strengthen the R&D base of the country through funding, development and utilization of technologies, building entrepreneurship and innovation, fostering international S & T cooperation, popularization and demonstration, generating S&T database, mounting mission mode initiatives, attracting talent to science and rejuvenating research in university and promotion of public-private partnerships.

Objectives

- 1 Formulation of Science, Technology and Innovation policy and other enabling policies for the R&D sector
- 2 Strengthening Basic research and Expanding R&D base -Human Capacity
- 3 Strengthening Basic research and Expanding R&D base -Institutional Capacity
- 4 Implementing Technology Development Programs
- 5 Societal interventions of S&T
- 6 S&T co-operation / Partnerships and Alliances

Functions

- 1 Formulation of policies relating to Science and Technology: The Department plays an important role in the formulation of Science and Technology Policy (STP) of the country. In the changing context of the scientific enterprise of the country, the need to revisit and reformulate the Science and Technology Policy enunciated last in 2003 and include also innovations has been recognized. In the address to the joint session of the Parliament, the President of India has announced a "Decade of Innovations". The Department of Science and Technology in close collaboration with other stakeholders and sister departments is undertaking to spearhead the reformulation of Science, Technology and Innovation (STI) Policy in 2010. Apart from the STI policy, the department of science and technology is engaged in the formulation of other enabling policies

Section 1: Vision, Mission, Objectives and Functions

for the research and development sector of India.

- 2 Strengthening Basic research and Expanding R&D base – Human Capacity: 2.1 Science & Engineering Research Council (SERC): SERC has been a flagship of DST and the major EMR research funding body of the country. 2.2 Science and Engineering Research Board (SERB): SERB with functional autonomy will perform the functions & tasks of funding research and partner DST in the development as well as promotional roles. 2.3 Innovation in Science Pursuit for Inspired Research (INSPIRE): It is a major programme for attraction of talent to study of science and careers with research. 2.4 Institution of Research Fellowships like Swarnajayanti Fellowship, the JC Bose Fellowship and the Ramanujan Fellowship. 2.5 Mentoring Programme: It targets a large number of researchers whose proposals are rejected by the Department.
- 3 Societal interventions of S&T Strengthening: 5.1 Autonomous Institutions of the DST have direct linkages with the society and has made significant impact in the R&D field. 5.2 Programmes for Science & Technology for Women is aimed to promote research, development and adaptation of technology, improve the working conditions and opportunities for gainful employment of women especially in rural areas. 5.3 Tribal Sub Plan (TSP), S & T application for weaker section (STAWS), Technology Interventions for addressing Societal Needs (TISN) are functioning in specific sectors. 5.4 National Science & Technology Entrepreneurship Development Board (NSTEDB) functions to promote and develop high quality entrepreneurship amongst S&T manpower and to promote self-employment by utilising S&T infrastructure. 5.5 Science and Technology based services such as SoI, NATMO, NABL, VP, TIFAC have been reinforced. 5.6 Science popularization activities and programmes have been intensified.
- 4 S&T co-operation / Partnerships and Alliances: 6.1 International S&T collaboration focused on the objectives viz. technology diplomacy, technology synergy and technology acquisition. These collaboration programs help in sharing the information and generate new knowledge, sharing of expertise to maintain pace, progress and growth of S&T. DST has signed S&T cooperation with 80 countries so far. The programmes involve Bilateral R&D projects, Joint Research Fund, Promotion of Fellowships, Mega Facilities for Basic Research, 6.2 National coordination among State Councils ensures the active participation of state governments in the S&T developmental process.
- 5 Strengthening Basic research and Expanding R&D base – Institutional Capacity: 3.1 Fund for Infrastructure Strengthening of Science and Technology (FIST): This is a major program for providing research infrastructure. Promotion of University Research and Scientific Excellence (PURSE): This is an initiative to provide incentive grant system for universities based on the evidence of scientific publications. Consolidation of University Research for Innovation and Excellence (CURIE) is a special initiative to improve the R & D infrastructure of 'Women Universities'. Regional special packages for building research infrastructure have also been mounted. 3.2 Sophisticated Analytical Instrument Facilities (SAIF): DST is providing the facilities of sophisticated analytical instruments to the research workers in general and specially from the institutions which do not have such instruments through its Sophisticated Analytical Instrument Facilities (SAIF) programme.
- 6 Implementing Technology Development Programs (TDP): 4.1 Drugs & Pharmaceuticals Research Programme (DPRP) aims to synergise the strengths of publicly funded R&D institutions and Indian Pharmaceutical Industry in developing drugs in areas of national relevance. 4.2 Nano Mission is an umbrella programme for capacity building which envisages the overall development of Nanoscience and nanotechnology in the country. 4.3 Water Technology Initiative focuses on creation of data bases, assessment and evaluation of technologies for safe drinking water for decentralized applications. 4.4 Solar Energy Research Initiative and Security Technology Initiative are two coordinated research initiatives. 4.5 S&T inputs to climate change science and adaptation and Cognition Science Initiative and Innovation Clusters are other two important programmes.

Section 2: Inter se Priorities among Key Objectives, Success indicators and Targets

Objective	Weight	Action	Success Indicator	Unit	Weight	Target / Criteria Value				
						Excellent	VeryGood	Good	Fair	Poor
						100%	90%	80%	70%	60%
1 Formulation of Science, Technology and Innovation policy and other enabling policies for the R&D sector	13.00	Finalization of national consultations on National Science, Technology and Innovation policy among the Stake holders	Date of finalization of national consultations on National Science, Technology and Innovation policy among the Stake holders	Date	3.90	03/07/2010	10/07/2010	20/07/2010	25/07/2010	30/07/2010
		Finalization of Inter-ministerial/ Departmental consultations on National Science, Technology and Innovation policy	Date of finalization of Inter-ministerial/Departmental consultations on National Science, Technology and Innovation policy	Date	3.90	03/10/2010	10/10/2010	20/10/2010	25/10/2010	30/10/2010
		Finalization of National Data Sharing on Access Policy Framework Document	Finalization of National Data Sharing on Access Policy Framework Document	Date	5.20	24/02/2011	01/03/2011	15/03/2011	25/03/2011	31/03/2011
2 Strengthening Basic research and Expanding R&D base -Human Capacity	19.00	Base line data compilation for mean process time optimization for Extra Mural Research Funding as measured by mean time taken for decision from submission	Definition of base line data and completion of process design for mean time optimization	Date	2.28	24/02/2011	01/03/2011	15/03/2011	25/03/2011	31/03/2011
		Number of INSPIRE Awards released	Number of students covered as an indicator of penetration of INSPIRE	Number	3.80	160000	150000	130000	120000	110000
		Number of INSPIRE Internships covered through winter camps	Realization of quantitative targets for number of youth attracted to summer/winter camps	Number	3.80	42000	40000	30000	25000	20000
		Percentage of funds earmarked for Scholarships for Higher Education and INSPIRE	Realization of earmarked funds utilized as an indicator of target achieved as an indicator of implementation efficiency	%	3.80	100	90	80	70	60
		Recruitment of Staff in Science & Engineering Research Board	Time target for recruitment of Manpower for Science and Engineering Research	Date	3.04	24/09/2010	01/10/2010	20/10/2010	25/10/2010	30/10/2010

Section 2: Inter se Priorities among Key Objectives, Success indicators and Targets

Objective	Weight	Action	Success Indicator	Unit	Weight	Target / Criteria Value					
						Excellent	VeryGood	Good	Fair	Poor	
						100%	90%	80%	70%	60%	
			Board, a new mechanism for supporting basic research								
		Ratio of the number of proposals received for R&D during the year relative to the receipt of the base year(2006-07)	Size of the competitive research grant released during 2010-11 relative to that in the base year 2006-07	Ratio	2.28	1.58	1.5	1.25	1.15	1	
3 Strengthening Basic research and Expanding R&D base -Institutional Capacity	12.00	Fund for Infrastructure strengthening S&T (FIST) for capacity building	Level of Utilization of competitive Grants earmarked by 31 March 2011	%	7.20	100	98	95	92	90	
		Development and pro-active promotional programmes for strengthening institutional capacities - Promotion of University Research and Scientific Excellence	Release of Research Incentive grant provided for performing universities	%	1.80	100	98	95	92	90	
		Development and pro-active promotional programmes for strengthening institutional capacities - Consolidation of University Research, Innovation and Excellence for women universities	Release of R&D Development fund earmarked for women universities	%	1.20	100	98	95	92	90	
		Development and pro-active promotional programmes for strengthening institutional capacities - Special packages for regions : NER and J&K	Release of R&D Development fund earmarked under special packages	%	1.80	100	98	95	92	90	
4 Implementing Technology Development Programs	19.00	No. of technologies identified from the technology compendium for development and demonstration	Number of technologies selected for demonstration	Number	1.90	130	120	100	90	80	
		No. of technologies assisted for application and absorption	Number of technologies applied and promoted	Number	2.85	38	35	25	20	15	
		Percentage of earmarked funds utilized for Drug and Pharma Research Programme	Achievement of utilization of earmarked fund	%	1.90	100	98	95	92	90	

Section 2: Inter se Priorities among Key Objectives, Success indicators and Targets

Objective	Weight	Action	Success Indicator	Unit	Weight	Target / Criteria Value				
						Excellent	VeryGood	Good	Fair	Poor
						100%	90%	80%	70%	60%
		during the quarter								
		Number convergent technology solutions for water challenges identified and selected	Convergent technology solutions for water challenges found out	Number	4.75	11	10	8	7	6
		Initiation of Programmes envisaged in Detailed Project Report for indigenous Solar Energy Research Initiative	Achieving time target for initiation of year marked activities as envisaged in DPR for Solar Energy Research Initiative	Date	2.85	24/12/2010	01/01/2011	15/02/2011	15/03/2011	31/03/2011
		Initiation of Programmes under Security Technology Initiative	Achieving time target for initiation of activities under Security technology initiative	Date	0.95	24/12/2010	01/01/2011	15/02/2011	15/03/2011	31/03/2011
		Implementation of application oriented Nano S&T R&D projects in Public Private Partnership (PPP) ventures under Nano Mission	Number of PPP projects sanctioned under Nano Mission	Number	1.90	6	5	3	2	1
		PhD students trained in the area of nano science and technology in the country under nano mission	Quantitative number of PhD outputs	Number	0.95	130	120	100	90	80
		Implementing new thrust area: Cognitive Science	Number of projects supported	Number	0.95	45	40	25	20	15
5 Societal interventions of S&T	14.00	Assisting Technology Entrepreneurs	Number of entrepreneurs assisted	Number	2.80	105	100	80	70	60
		Assisting Micro Enterprises	Number of micro enterprises assisted	Number	1.68	2300	2200	2000	1900	1800
		Support to Women for gender parity in S&T	Number of projects supported	Number	4.20	150	140	120	110	100
		Projects supported for S&T inputs for development of Weaker Sections for equity	Number of projects supported	Number	2.80	55	50	30	25	20
		Field projects and research programmes supported for science popularization and	Number of projects supported	Number	0.84	210	200	125	100	75

Section 2: Inter se Priorities among Key Objectives, Success indicators and Targets

Objective	Weight	Action	Success Indicator	Unit	Weight	Target / Criteria Value				
						Excellent	VeryGood	Good	Fair	Poor
						100%	90%	80%	70%	60%
		communication								
		Child Scientist participation in National Children Science Congress	Number of Child Scientists participating	Number	0.84	1050000	1000000	800000	700000	600000
		Visitors to Science Express Exhibition Train	Number of visitors expected	Number	0.84	1260000	1200000	800000	600000	500000
6 S&T co-operation / Partnerships and Alliances	10.00	Signing agreements, MoUs and protocols for S&T cooperation and partnerships	Number of agreements signed	Number	3.00	41	40	30	25	20
		Development and synergy of National knowledge networks for S&T cooperation	Number of networks developed and synergized	Number	2.00	26	24	18	15	13
		Exchange S&T professionals for International cooperation	Number of exchange visits facilitated	Number	2.00	1160	1100	950	900	800
		Developing State S & T councils mechanism for S&T outreach	Ratio of Programmatic fund released to State S & T councils as a percentage of core grants sanctioned for manpower	Ratio	3.00	1.05	1.0	0.7	0.5	0.3
* Efficient Functioning of the RFD System	5.00	Timely submission of Draft for Approval	On-time submission	Date	2.00	05/03/2010	08/03/2010	09/03/2010	10/03/2010	11/03/2010
		Timely submission of Results	On- time submission	Date	1.00	02/05/2011	03/05/2011	04/05/2011	05/05/2011	06/05/2011
		Finalize a Strategic Plan	Finalize the Strategic Plan for next 5 years	Date	2.00	10/12/2010	15/12/2010	20/12/2010	24/12/2010	31/12/2010
* Improving Internal Efficiency / Responsiveness / Service delivery of Ministry / Department	6.00	Develop RFDs for all Responsibility Centers (Subordinate Offices, Attached Offices, Autonomous Bodies)	Percentage of RCs covered	%	2.00	100	95	90	85	80
		Implementation of Sevottam	Create a Sevottam compliant to implement, monitor and review Citizen's Charter	Date	1.00	01/10/2010	05/10/2010	11/10/2010	15/10/2010	20/10/2010

* Mandatory Objective(s)

Section 2: Inter se Priorities among Key Objectives, Success indicators and Targets

Objective	Weight	Action	Success Indicator	Unit	Weight	Target / Criteria Value				
						Excellent	VeryGood	Good	Fair	Poor
						100%	90%	80%	70%	60%
			Create a Sevottam Compliant system to redress and monitor public Grievances	Date	1.00	01/10/2010	05/10/2010	11/10/2010	15/10/2010	20/10/2010
			Independent Audit of Implementation of Citizen's Charter	%	1.00	100	95	90	85	80
			Independent Audit of implementation of public grievance redressal system	%	1.00	100	95	90	85	80
* Ensuring compliance to the Financial Accountability Framework	2.00	Timely submission of ATNS on Audit Paras of C&AG	Percentage of ATNS submitted within due date (4 months) from date of presentation of Report to Parliament by CAG during the year.	%	0.50	100	90	80	70	60
		Timely submission of ATRs to the PAC Sectt. on PAC Reports.	Percentage of ATRs submitted within due date (6 months) from date of presentation of Report to Parliament by PAC during the year.	%	0.50	100	90	80	70	60
		Early disposal of pending ATNs on Audit Paras of C&AG Reports presented to Parliament before 31.3.2010.	Percentage of outstanding ATNs disposed off during the year.	%	0.50	100	90	80	70	60
		Early disposal of pending ATRs on PAC Reports presented to Parliament before 31.3.2010	Percentage of outstanding ATRs disposed off during the year.	%	0.50	100	90	80	70	60

* Mandatory Objective(s)

Section 3: Trend Values of the Success Indicators

Objective	Action	Success Indicator	Unit	Actual Value for FY 08/09	Actual Value for FY 09/10	Target Value for FY 10/11	Projected Value for FY 11/12	Projected Value for FY 12/13
1 Formulation of Science, Technology and Innovation policy and other enabling policies for the R&D sector	Finalization of national consultations on National Science, Technology and Innovation policy among the Stake holders	Date of finalization of national consultations on National Science, Technology and Innovation policy among the Stake holders	Date	--	20/03/2010	10/07/2010	--	--
	Finalization of Inter-ministerial/ Departmental consultations on National Science, Technology and Innovation policy	Date of finalization of Inter-ministerial/Departmental consultations on National Science, Technology and Innovation policy	Date	--	--	10/10/2010	--	--
	Finalization of National Data Sharing on Access Policy Framework Document	Finalization of National Data Sharing on Access Policy Framework Document	Date	--	--	01/03/2011	--	--
2 Strengthening Basic research and Expanding R&D base -Human Capacity	Base line data compilation for mean process time optimization for Extra Mural Research Funding as measured by mean time taken for decision from submission	Definition of base line data and completion of process design for mean time optimization	Date	--	20/03/2010	01/03/2011	22/03/2012	--
	Number of INSPIRE Awards released	Number of students covered as an indicator of penetration of INSPIRE	Number	--	50000	150000	200000	200000
	Number of INSPIRE Internships covered through winter camps	Realization of quantitative targets for number of youth attracted to summer/winter camps	Number	500	15000	40000	50000	50000
	Percentage of funds earmarked for Scholarships for Higher Education and INSPIRE	Realization of earmarked funds utilized as an indicator of target achieved as an indicator of implementation efficiency	%	100	100	100	100	100
	Recruitment of Staff in Science & Engineering Research Board	Time target for recruitment of Manpower for Science and Engineering Research	Date	--	--	01/10/2010	--	--

Section 3: Trend Values of the Success Indicators

Objective	Action	Success Indicator	Unit	Actual Value for FY 08/09	Actual Value for FY 09/10	Target Value for FY 10/11	Projected Value for FY 11/12	Projected Value for FY 12/13
		Board, a new mechanism for supporting basic research						
		Ratio of the number of proposals received for R&D during the year relative to the receipt of the base year(2006-07)	Ratio	1.4	1.5	1.5	1.6	1.7
3 Strengthening Basic research and Expanding R&D base -Institutional Capacity	Fund for Infrastructure strengthening S&T (FIST) for capacity building	Level of Utilization of competitive Grants earmarked by 31 March 2011	%	100	100	100	100	100
	Development and pro-active promotional programmes for strengthening institutional capacities - Promotion of University Research and Scientific Excellence	Release of Research Incentive grant provided for performing universities	%	100	100	100	100	100
	Development and pro-active promotional programmes for strengthening institutional capacities - Consolidation of University Research, Innovation and Excellence for women universities	Release of R&D Development fund earmarked for women universities	%	100	100	100	100	100
	Development and pro-active promotional programmes for strengthening institutional capacities - Special packages for regions : NER and J&K	Release of R&D Development fund earmarked under special packages	%	100	100	100	100	100
4 Implementing Technology Development Programs	No. of technologies identified from the technology compendium for development and demonstration	Number of technologies selected for demonstration	Number	90	110	120	140	140

Section 3: Trend Values of the Success Indicators

Objective	Action	Success Indicator	Unit	Actual Value for FY 08/09	Actual Value for FY 09/10	Target Value for FY 10/11	Projected Value for FY 11/12	Projected Value for FY 12/13
	No. of technologies assisted for application and absorption	Number of technologies applied and promoted	Number	25	30	35	40	40
	Percentage of earmarked funds utilized for Drug and Pharma Research Programme during the quarter	Achievement of utilization of earmarked fund	%	100	100	100	100	100
	Number convergent technology solutions for water challenges identified and selected	Convergent technology solutions for water challenges found out	Number	--	10	10	5	5
	Initiation of Programmes envisaged in Detailed Project Report for indigenous Solar Energy Research Initiative	Achieving time target for initiation of year marked activities as envisaged in DPR for Solar Energy Research Initiative	Date	--	--	01/01/2011	--	--
	Initiation of Programmes under Security Technology Initiative	Achieving time target for initiation of activities under Security technology initiative	Date	--	--	01/01/2011	--	--
	Implementation of application oriented Nano S&T R&D projects in Public Private Partnership (PPP) ventures under Nano Mission	Number of PPP projects sanctioned under Nano Mission	Number	--	--	5	10	15
	PhD students trained in the area of nano science and technology in the country under nano mission	Quantitative number of PhD outputs	Number	--	120	120	140	150
	Implementing new thrust area: Cognitive Science	Number of projects supported	Number	--	10	40	50	50
5 Societal interventions of S&T	Assisting Technology Entrepreneurs	Number of entrepreneurs assisted	Number	80	90	100	120	120
	Assisting Micro Enterprises	Number of micro enterprises assisted	Number	2000	2100	2200	2500	2500

Section 3: Trend Values of the Success Indicators

Objective	Action	Success Indicator	Unit	Actual Value for FY 08/09	Actual Value for FY 09/10	Target Value for FY 10/11	Projected Value for FY 11/12	Projected Value for FY 12/13
	Support to Women for gender parity in S&T	Number of projects supported	Number	100	120	140	160	160
	Projects supported for S&T inputs for development of Weaker Sections for equity	Number of projects supported	Number	35	40	50	55	55
	Field projects and research programmes supported for science popularization and communication	Number of projects supported	Number	150	175	200	225	250
	Child Scientist participation in National Children Science Congress	Number of Child Scientists participating	Number	800000	900000	1000000	1100000	1200000
	Visitors to Science Express Exhibition Train	Number of visitors expected	Number	800000	1000000	1200000	1300000	1400000
6 S&T co-operation / Partnerships and Alliances	Signing agreements, MoUs and protocols for S&T cooperation and partnerships	Number of agreements signed	Number	35	40	40	45	45
	Development and synergy of National knowledge networks for S&T cooperation	Number of networks developed and synergized	Number	20	22	24	24	24
	Exchange S&T professionals for International cooperation	Number of exchange visits facilitated	Number	900	1000	1100	1200	1200
	Developing State S & T councils mechanism for S&T outreach	Ratio of Programmatic fund released to State S & T councils as a percentage of core grants sanctioned for manpower	Ratio	0.7	1	1	1.1	1.2
* Efficient Functioning of the RFD System	Timely submission of Draft for Approval	On-time submission	Date					

* Mandatory Objective(s)

Section 3: Trend Values of the Success Indicators

Objective	Action	Success Indicator	Unit	Actual Value for FY 08/09	Actual Value for FY 09/10	Target Value for FY 10/11	Projected Value for FY 11/12	Projected Value for FY 12/13
	Timely submission of Results	On- time submission	Date					
	Finalize a Strategic Plan	Finalize the Strategic Plan for next 5 years	Date					
* Improving Internal Efficiency / Responsiveness / Service delivery of Ministry / Department	Develop RFDs for all Responsibility Centers (Subordinate Offices, Attached Offices, Autonomous Bodies)	Percentage of RCs covered	%					
	Implementation of Sevottam	Create a Sevottam compliant to implement, monitor and review Citizen's Charter	Date					
		Create a Sevottam Compliant system to redress and monitor public Grievances	Date					
		Independent Audit of Implementation of Citizen's Charter	%					
		Independent Audit of implementation of public grievance redressal system	%					
* Ensuring compliance to the Financial Accountability Framework	Timely submission of ATNS on Audit Paras of C&AG	Percentage of ATNS submitted within due date (4 months) from date of presentation of Report to Parliament by CAG during the year.	%					
	Timely submission of ATRs to the PAC Sectt. on PAC Reports.	Percentage of ATRs submitted within due date (6 months) from date of presentation of Report to Parliament by PAC during the year.	%					

* Mandatory Objective(s)

Section 3: Trend Values of the Success Indicators

Objective	Action	Success Indicator	Unit	Actual Value for FY 08/09	Actual Value for FY 09/10	Target Value for FY 10/11	Projected Value for FY 11/12	Projected Value for FY 12/13
	Early disposal of pending ATNs on Audit Paras of C&AG Reports presented to Parliament before 31.3.2010.	Percentage of outstanding ATNs disposed off during the year.	%					
	Early disposal of pending ATRs on PAC Reports presented to Parliament before 31.3.2010	Percentage of outstanding ATRs disposed off during the year.	%					

* Mandatory Objective(s)

Section 4: Description and Definition of Success Indicators and Proposed Measurement Methodology

The Department of Science & Technology is the largest funding body of Extra-Mural Research in the country with nearly 50% National share. The department has established a system for watching and monitoring the S&T outputs indicators originating from the non-strategic R&D sector in the country. Globally S&T output indicators are being used and competitive rating indices are employed for assessing global competitiveness of Nations. Currently, Scientific publications in scholarly peer reviewed and valued journals, indices like impact factors of journals in which the papers appear, number of citations of papers, average citation per paper are used. Currently based on Global Research Report of Thomson Reuters, India is emerging as an important player in the scholarship driven science (Figure 1) in spite of relatively low levels of Gross Expenditure on Research and Development relative to other countries. Based on some data bases on scientific publications, India ranks currently 10th based on quantum and within top 20 on the basis of citations per paper. The Department is currently discussing with agencies for third party audit of India's performance as evident from S&T output indicators. This exercise is being explored for developing an evidence-based budgeting system for the science sector in the country.

Assessing Technology competitiveness of Nations is more complex. Factors like percentage share of products exported based on advanced technologies and share of GDP growth attributable to technologies are being used. Competitiveness indicators for innovations are computed through an integrated approach to the levels of risk financing for innovations and support to early stage innovations through both development and policy. The Department of Science and Technology has been traditionally focused on supporting basic research through Extra Mural Research Grants with relatively moderate levels of budget support per scientist. Therefore, National outcome of the efforts of DST at the present time is best measured through improvements of the relative ranking of India with respect to the quantum of publications in peer valued journals. While India ranked 15th as per data of 2003, the country is currently ranked at 10th and is likely to move to 9th by 2010. Parameters of relative assessment and measurement of India in technology and innovation competitiveness will need to be fine tuned to suit the social context and stage of the economic development of the country. DST proposes to undertake studies relating to assessment and measurement of global competitiveness. The department is only one of the major players in strengthening the R&D system of India and the cumulative results are the outcome of the effort of many departments. However, the department will undertake to establish a watch system for monitoring the output to input ratios as well as growth processes of the country in the R&D sector and devise and formulate policies which would indirectly influence the global competitiveness of the India in the R&D sector.

The department has mounted major national initiative for attraction of talent to study of science and careers with research under New Scheme called INSPIRE with an expected long term outcome based on near term actions. Total of 33 success indicators for covering the six overall objectives have been selected with a blend of 26 non-financial and 7 financial targets. Wherever more than two types of outputs and external actions (like peer review, recommendations Expert committees for decision making etc) are involved, for convenience, measurement of performance and success of actions is linked to financial delivery.

Performance indicators for non-linear processes in Science, Technology and Innovation require some process innovations based on global bench marks. Performance improvement through enhanced system efficiencies of a department like DST with a mandate to expand the R&D base in the country can be assessed by the measuring the expansion of the stake holder base as evidenced from the number of R&D proposals received for funding referenced to a base year, which has been selected as the last year of the tenth plan namely 2006-07. Specified and number based quantitative targets have been selected wherever appropriate. For improving state-center cooperation in S&T, a new parameter like ratio of programmatic fund to core fund has been designed for measuring S&T outreach.

Some of the parameters used are based on increasing the efficiency and effectiveness of the department like speedy and transparent decision making. As the largest R&D funding body, improved process efficiency is measured by measuring the mean process time taken for sanctioning project funds. Scientifically a normal distribution of the percentage of projects cleared for funding as in Figure 2 is expected. Mean time for processing will be measured by the full width at the half height of the normal Boltzman distribution of the process time consumed as shown in Figure. An attempt will be made to shorten the time taken for fund sanction from the date of submission of the proposal to sanction of funds from 9 months to 5 months. This would be better than the best global bench mark at this time. Strengthening of the institutional capacities and scientific excellence based on measurement of global bench marks like H-index for institutions to provide research incentive grants and special packages for North East and J&K regions are based on transparent parameters. Transparent decision logic is embedded in financial targets wherever feasible.

Section 4: Description and Definition of Success Indicators and Proposed Measurement Methodology

The award of research grants is a competitive process and is spread over the year, it is planned to spread this uniformly over the year and make full utilization of resources in making investment for developing the country's knowledge and technology base.

Section 5:
Specific Performance Requirements from other Departments

Department	Relevant Success Indicator	What do you need?	Why do you need it?	How much you need?	What happens if you do not get it?
State Science & Technology Department	Number of Students covered across the country under INSPIRE and SHE	Partnership in implementation	They have presence at the implementation levels and are linked to the State mechanism	Their partnerships would enhance the effectiveness of the Programme	We will have to identify alternate mechanisms
State Department of Education	Number of Students covered across the country under INSPIRE and SHE	Partnership in implementation	They are the controlling department for and would help in identification of students to be supported	Their partnership would increase the reach and spread of the Programme	Their support is vital and critical
Ministry of Human Resource Development	Number of Students covered across the country under INSPIRE and SHE	Partnership in implementation	They are the controlling department for and would help in identification of students to be supported	Their partnership would increase the reach and spread of the Programme	Their support is vital and critical
Ministry of External Affairs	Number of International MoUs agreements and protocols signed	Partnership in implementation	They are the main Ministry for external relations and our agreements are within the frame work of country cooperation	For enhancing Technology Diplomacy with relevant Nations their support is required	The number of agreements, MoUs and protocols will get affected