



R F D

(Results-Framework Document)

for

Department of Science and Technology
(2012-2013)

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.

Objective

- 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 Alliance

Functions

- 1 Coordination and integration of areas of Science & Technology having cross sectoral linkages in which a number of institutions and departments have interest and capabilities.
- 2 Support and Grants-in-aid to Scientific Research Institutions, Scientific Associations and Bodies.
- 3 Matters regarding Inter-Agency/Inter-Departmental coordination for evolving science and technology missions.
- 4 Formulation of policies relating to Science and Technology.
- 5 Matters relating to the Scientific Advisory Committee of the Cabinet (SACC).
6. Promotion of new areas of Science and Technology with special emphasis on emerging areas. (i) Research and Development through its research institutions or laboratories for development of indigenous technologies concerning bio-fuel production, processing, standardization and applications, in co-ordination with the concerned Ministry or

Section 1: Vision, Mission, Objectives and Functions

Department; (ii) Research and Development activities to promote utilization of by-products to development value added chemicals.

- 7 Futurology.
- 8 Undertaking or financially sponsoring scientific and technological surveys, research design and development, where necessary.
- 9 Matters commonly affecting Scientific and technological departments /organisations/ institutions, e.g., financial, personnel, purchase and import policies and practices.
- 10 Management Information Systems for Science and Technology and coordination thereof.
- 11 Matters concerning domestic technology particularly the promotion of ventures involving the commercialization of such technology other than those under the Department of Scientific and Industrial Research.
- 12 All other measures needed for the promotion of science and technology and their application to the development and security of the nation.
- 13 Matters relating to Institutional Science and Technology capacity building including setting up of new institutions and institutional infrastructure.
- 14 Promotion of Science and Technology at the State, District and Village levels for grassroots development through State Science and Technology Councils and other mechanisms.
- 15 Application of Science and Technology for weaker sections, women and other disadvantaged sections of Society.
- 16 All matters concerning: (a) Science and Engineering Research Board; (b) Technology Development Board and related Acts; (c) National Council for Science and Technology Communication; (d) National Science and Technology Entrepreneurship Development Board; (e) International Science and Technology Cooperation including appointment of scientific attaches abroad (in close cooperation with the Ministry of External Affairs); (f) Autonomous Science and Technology Institutions relating to the subject under the Department of Science and Technology; (g) Professional Science Academies promoted and funded by Department of Science and Technology; (h) The Survey of India, and National Atlas and Thematic Mapping Organisation; (i) National Spatial Data Infrastructure and promotion of G.I.S; (j) The National Innovation Foundation, Ahmadabad.

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

Objective	Weight	Action	Success Indicator	Unit	Weight	Target / Criteria Value				
						Excellent 100%	Very Good 90%	Good 80%	Fair 70%	Poor 60%
[1] Formulation of Science, Technology and Innovation policy and other enabling policies for the R&D sector	13.00	[1.1] Submission of draft National Science, Technology and Innovation Policy to Cabinet	[1.1.1] Date of completion of National Science, Technology and Innovation Policy	Date	6.00	31/08/2012	07/09/2012	14/09/2012	21/09/2012	28/09/2012
		[1.2] Preparation of two performance reports on publications and patents for the science, technology and innovation output indicators (2000-2010) for India	[1.2.1] Date of publication of the reports	Date	7.00	28/02/2013	07/03/2013	14/03/2013	21/03/2013	28/03/2013
[2] Strengthening Basic research and Expanding R&D base -Human Capacity	17.00	[2.1] Number of INSPIRE awards released	[2.1.1] Number of students covered under INSPIRE award	Number	3.00	200000	190000	180000	170000	160000
		[2.2] Number of INSPIRE internships covered through summer/ winter camps	[2.2.1] Number of youth attracted to summer /winter camps	Number	2.50	55000	50000	45000	40000	35000
		[2.3] Number of scholarships for Higher Education awarded	[2.3.1] Number of scholarships released	Number	2.50	4500	4200	4000	3800	3600
		[2.4] Number of INSPIRE Fellowship awarded	[2.4.1] Number of fellowships released	Number	3.00	800	700	600	500	400
		[2.5] Institution of INSPIRE faculty position	[2.5.1] Number of INSPIRE faculty position	Number	2.50	180	175	160	150	140
		[2.6] Mapping of the publications/ patents of the Indian researchers in Indexed Journals as an indicator of competitiveness of India	[2.6.1] Number of status reports prepared per year	Number	1.50	5	4	3	2	1
		[2.7] Completion of EFC for the programme for the employed women scientists for mid-career	[2.7.1] Date of completion of the EFC process	Date	1.50	28/02/2013	07/03/2013	14/03/2013	21/03/2013	28/03/2013

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

Objective	Weight	Action	Success Indicator	Unit	Weight	Target / Criteria Value				
						Excellent 100%	Very Good 90%	Good 80%	Fair 70%	Poor 60%
[3] Strengthening Basic research and Expanding R&D base -Institutional Capacity	13.00	mobility within the country								
		[2.8] Strengthening of Human Capacity in research in identified thrust areas in Atmospheric Sciences	[2.8.1] Number of Scientists benefited	Number	0.50	100	80	60	50	25
		[3.1] Capacity building through Fund for infrastructure strengthening S&T (FIST)	[3.1.1] Level of utilization of competitive grants	%	4.00	100	90	95	92	90
		[3.2] Expanding S&T infrastructure through special state specific package	[3.2.1] Number of packages delivered	Number	4.00	1	1	1	1	1
		[3.3] Establishment of new Centers under the SAIF programme	[3.3.1] Number of Centers Established	Number	2.00	2	1	1	1	1
[4] Implementing Technology Development Programs	18.00	[3.4] Launch of Programme for Research initiatives in Mathematics Education Science (PRIME)	[3.4.1] Date of launch of the programme	Date	2.00	31/12/2012	07/01/2013	14/01/2013	21/01/2013	28/01/2013
		[3.5] Preparation of DPR for Super Computer facility and Capacity building	[3.5.1] Date of completion of the report	Date	1.00	28/09/2012	05/10/2012	12/10/2012	19/10/2012	26/10/2012
		[4.1] Number of technologies assisted for application and absorption	[4.1.1] Number of technologies applied and promoted	Number	2.00	40	35	30	25	20
		[4.2] Number of convergent technology solutions for water challenges identified and selected	[4.2.1] Number of technology solutions for water found out	Number	2.00	4	3	2	1	0
		[4.3] Initiation of Programmes envisaged in Detailed Project Report for indigenous Solar Energy Research	[4.3.1] Number of R&D projects supported	Number	2.00	8	6	5	4	2

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Objective	Weight	Action	Success Indicator	Unit	Weight	Target / Criteria Value				
						Excellent 100%	Very Good 90%	Good 80%	Fair 70%	Poor 60%
		initiative								
		[4.4] PhD/M.Tech. students trained in the area of nano science and technology in the country under nano mission	[4.4.1] Quantitative number of PhD/PG outputs	Number	2.00	200	180	160	140	120
		[4.5] Implementing new thrust areas: Cognitive science	[4.5.1] Number of researchers supported	Number	2.00	60	50	40	30	20
		[4.6] R&D programmes for establishing knowledge networks in the areas of climate change and clean energy	[4.6.1] Number of programmes taken up	Number	2.00	8	6	5	4	3
		[4.7] Programme initiation for promotion of PPP for R&D areas and increased engagement of Private sector in R&D	[4.7.1] Number of projects initiated under PPP	Number	2.00	4	3	2	1	0
[5] Societal interventions of S&T	14.00	[4.8] Demonstration and transfer of the test bed for polash technology from sea water to Ministry of Chemicals and Fertilizers	[4.8.1] Date of transfer of the technology	Date	2.00	28/09/2012	05/10/2012	12/10/2012	19/10/2012	26/10/2012
		[4.9] Preparing independent status report on impact/outcome of Technology Development Programmes	[4.9.1] Number of Projects reviewed and status reports submitted	Number	2.00	5	4	3	2	1
		[5.1] Assisting Technology Entrepreneurs under the National Science & Technology Entrepreneurship Development Board	[5.1.1] Number of entrepreneurs assisted	Number	2.00	130	120	110	100	80

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

Objective	Weight	Action	Success Indicator	Unit	Weight	Target / Criteria Value			
						Excellent 100%	Very Good 90%	Good 80%	Poor 60%
		[5.2] Assisting micro enterprises under the National Science & Technology Entrepreneurship Development Board	[5.2.1] Number of micro enterprises assisted	Number	2.00	2600	2550	2500	2400
		[5.3] Support to Women for gender parity in S&T	[5.3.1] Number of projects supported	Number	2.00	170	165	160	140
		[5.4] Projects supported for S&T inputs for developments of weaker sections for equity	[5.4.1] Number of projects supported	Number	2.00	65	60	55	45
		[5.5] Field projects and research programmes supported for science popularization and communication	[5.5.1] Number of projects supported	Number	2.00	225	220	215	200
		[5.6] Child Scientists participation in National Children Science Congress	[5.6.1] Number of children participating the event	Number	1.00	1100000	1000000	950000	850000
[6] S&T co-operation / Partnerships and Alliance	10.00	[5.7] Implementation of programme on S&T backed interventions for tribal population	[5.7.1] Number of programme on S&T backed interventions for tribal population	Number	1.00	5	4	3	1
		[5.8] Launching of model demonstration projects through CSTRI for rural application	[5.8.1] Number of demonstration projects launched	Number	2.00	4	3	2	0
		[6.1] Signing agreements, MOUs and protocols for S&T cooperation and partnership	[6.1.1] Number of agreements signed	Number	2.00	45	40	35	25
		[6.2] Development and synergy of National Knowledge Network for S&T cooperation	[6.2.1] Number of Nodes developed and synergized	Number	2.00	28	26	24	20
		[6.3] Exchange of professional for	[6.3.1] Number of exchange visit	Number	2.00	1200	1150	1100	1000

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

Objective	Weight	Action	Success Indicator	Unit	Weight	Target / Criteria Value				
						Excellent 100%	Very Good 90%	Good 80%	Fair 70%	Poor 60%
		international cooperation	facilitated							
		[6.4] Developing State S&T Councils mechanisms for S&T outreach	[6.4.1] Ratio of programmatic fund released to state S&T Councils as a percentage of core grants sanctioned for manpower	Ratio	1.00	1.10	1.05	1.0	0.5	0.25
		[6.5] Projects sanctioned through the Joint research fund	[6.5.1] Number of research Projects funded under the Joint research fund	Number	1.00	15	12	10	8	6
		[6.6] Investment through India Innovation Fund	[6.6.1] Number of companies supported	Number	1.00	3	2	1	1	1
		[6.7] Design of a scheme for fostering international S&T co-operation for Indian universities	[6.7.1] Preparation of DPR for the scheme	Date	1.00	31/12/2012	07/01/2013	14/01/2013	21/01/2013	28/01/2013
* Efficient Functioning of the RFD System	3.00	Timely submission of Draft for Approval	On-time submission	Date	2.0	05/03/2012	06/03/2012	07/03/2012	08/03/2012	09/03/2012
* Administrative Reforms	6.00	Timely submission of Results	On- time submission	Date	1.0	01/05/2012	03/05/2012	04/05/2012	05/05/2012	06/05/2012
		Implement mitigating strategies for reducing potential risk of corruption	% of implementation	%	2.0	100	95	90	85	80
		Implement ISO 9001 as per the approved action plan	Area of operations covered	%	2.0	100	95	90	85	80
		Identify, design and implement major innovations	Implementation of identified innovations	Date	2.0	05/03/2013	06/03/2013	07/03/2013	08/03/2013	09/03/2013
* Improving Internal Efficiency / responsiveness / service delivery of Ministry / Department	4.00	Implementation of Sevottam	Independent Audit of Implementation of Citizen's Charter	%	2.0	100	95	90	85	80

* 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 100%	Very Good 90%	Good 80%	Fair 70%	Poor 60%
* Ensuring compliance to the Financial Accountability Framework	2.00		Independent Audit of implementation of public grievance redressal system	%	2.0	100	95	90	85	80
		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.	%	0.5	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.	%	0.5	100	90	80	70	60
		Early disposal of pending ATNs on Audit Paras of C&AG Reports presented to Parliament before 31.3.2012.	Percentage of outstanding ATNs disposed off during the year.	%	0.5	100	90	80	70	60
		Early disposal of pending ATRs on PAC Reports presented to Parliament before 31.3.2012	Percentage of outstanding ATRS disposed off during the year.	%	0.5	100	90	80	70	60

* Mandatory Objective(s)

Section 3: Trend Values of the Success Indicators

Objective	Action	Success Indicator	Unit	Actual Value FY 10/11	Actual Value FY 11/12	Target Value FY 12/13	Projected Value for FY 13/14	Projected Value for FY 14/15
[1] Formulation of Science, Technology and Innovation policy and other enabling policies for the R&D sector	[1.1] Submission of draft National Science, Technology and Innovation Policy to Cabinet	[1.1.1] Date of completion of National Science, Technology and Innovation Policy	Date	--	--	07/09/2012	--	--
	[1.2] Preparation of two performance reports on publications and patents for the science, technology and innovation output indicators (2000-2010) for India	[1.2.1] Date of publication of the reports	Date	--	--	07/03/2013	--	--
[2] Strengthening Basic research and Expanding R&D base -Human Capacity	[2.1] Number of INSPIRE awards released	[2.1.1] Number of students covered under INSPIRE award	Number	180000	200000	190000	200000	200000
	[2.2] Number of INSPIRE Internships covered through summer/ winter camps	[2.2.1] Number of youth attracted to summer /winter camps	Number	50000	50000	50000	60000	65000
	[2.3] Number of scholarships for Higher Education awarded	[2.3.1] Number of scholarships released	Number	1300	1900	4200	5000	5000
	[2.4] Number of INSPIRE Fellowship awarded	[2.4.1] Number of fellowships released	Number	640	750	700	850	900
	[2.5] Institution of INSPIRE faculty position	[2.5.1] Number of INSPIRE faculty position	Number	--	48	175	200	225
	[2.6] Mapping of the publications/ patents of the Indian researchers in Indexed Journals as an indicator of competitiveness of India	[2.6.1] Number of status reports prepared per year	Number	--	--	4	--	--
	[2.7] Completion of EFC for the programme for	[2.7.1] Date of completion of the EFC process	Date	--	--	07/03/2013	--	--

Section 3: Trend Values of the Success Indicators

Objective	Action	Success Indicator	Unit	Actual Value FY 10/11	Actual Value FY 11/12	Target Value FY 12/13	Projected Value for FY 13/14	Projected Value for FY 14/15
[3] Strengthening Basic research and Expanding R&D base -Institutional Capacity	the employed women scientists for mid-career mobility within the country							
	[2.8] Strengthening of Human Capacity in research in identified thrust areas in Atmospheric Sciences	[2.8.1] Number of Scientists benefited	Number	--	--	80	--	--
	[3.1] Capacity building through Fund for infrastructure strengthening S&T (FIST)	[3.1.1] Level of utilization of competitive grants	%	100	100	90	100	100
	[3.2] Expanding S&T infrastructure through special state specific package	[3.2.1] Number of packages delivered	Number	1	1	1	1	1
	[3.3] Establishment of new Centers under the SAIF programme	[3.3.1] Number of Centers Established	Number	--	--	1	2	2
[4] Implementing Technology Development Programs	[3.4] Launch of Programme for Research initiatives in Mathematics Education Science (PRIME)	[3.4.1] Date of launch of the programme	Date	--	--	07/01/2013	--	--
	[3.5] Preparation of DPR for Super Computer facility and Capacity building	[3.5.1] Date of completion of the report	Date	--	--	05/10/2012	--	--
	[4.1] Number of technologies assisted for application and absorption	[4.1.1] Number of technologies applied and promoted	Number	32	35	35	50	50
	[4.2] Number of convergent technology solutions	[4.2.1] Number of technology solutions for water	Number	10	4	3	4	4

Section 3: Trend Values of the Success Indicators

Objective	Action	Success Indicator	Unit	Actual Value FY 10/11	Actual Value FY 11/12	Target Value FY 12/13	Projected Value for FY 13/14	Projected Value for FY 14/15
	for water challenges identified and selected	found out						
	[4.3] Initiation of Programmes envisaged in Detailed Project Report for indigenous Solar Energy Research initiative	[4.3.1] Number of R&D projects supported	Number	--	6	6	10	10
	[4.4] PhD/M. Tech. students trained in the area of nano science and technology in the country under nano mission	[4.4.1] Quantitative number of PhD/PG outputs	Number	110	120	180	220	240
	[4.5] Implementing new thrust areas: Cognitive science	[4.5.1] Number of researchers supported	Number	50	55	50	65	75
	[4.6] R&D programmes for establishing knowledge networks in the areas of climate change and clean energy	[4.6.1] Number of programmes taken up	Number	--	8	6	8	8
	[4.7] Programme initiation for promotion of PPP for R&D areas and increased engagement of Private sector in R&D	[4.7.1] Number of projects initiated under PPP	Number	--	4	3	4	4
	[4.8] Demonstration and transfer of the test bed for potash technology from sea water to Ministry of Chemicals and Fertilizers	[4.8.1] Date of transfer of the technology	Date	--	--	05/10/2012	--	--

Section 3: Trend Values of the Success Indicators

Objective	Action	Success Indicator	Unit	Actual Value FY 10/11	Actual Value FY 11/12	Target Value FY 12/13	Projected Value for FY 13/14	Projected Value for FY 14/15
[5] Societal interventions of S&T	[4.9] Preparing independent status report on impact/outcome of Technology Development Programmes	[4.9.1] Number of Projects reviewed and status reports submitted	Number	--	5	4	5	5
	[5.1] Assisting Technology Entrepreneurs under the National Science & Technology Entrepreneurship Development Board	[5.1.1] Number of entrepreneurs assisted	Number	100	123	120	135	140
	[5.2] Assisting micro enterprises under the National Science & Technology Entrepreneurship Development Board	[5.2.1] Number of micro enterprises assisted	Number	2200	2500	2550	2650	2700
	[5.3] Support to Women for gender parity in S&T	[5.3.1] Number of projects supported	Number	140	160	165	175	180
	[5.4] Projects supported for S&T inputs for developments of weaker sections for equity	[5.4.1] Number of projects supported	Number	50	55	60	70	75
	[5.5] Field projects and research programmes supported for science popularization and communication	[5.5.1] Number of projects supported	Number	200	220	220	230	235
	[5.6] Child Scientists participation in National Children Science Congress	[5.6.1] Number of children participating the event	Number	1000000	1050000	1000000	1200000	1250000
	[5.7] Implementation of programme on S&T backed interventions for tribal population	[5.7.1] Number of programme on S&T backed interventions for	Number	--	--	4	5	5

Section 3: Trend Values of the Success Indicators

Objective	Action	Success Indicator	Unit	Actual Value FY 10/11	Actual Value FY 11/12	Target Value FY 12/13	Projected Value for FY 13/14	Projected Value for FY 14/15
[6] S&T co-operation / Partnerships and Alliance		tribal population						
	[5.8] Launching of model demonstration projects through CSTRI for rural application	[5.8.1] Number of demonstration projects launched	Number	--	--	3	4	4
	[6.1] Signing agreements, MOUs and protocols for S&T cooperation and partnership	[6.1.1] Number of agreements signed	Number	40	42	40	50	55
	[6.2] Development and synergy of National Knowledge Network for S&T cooperation	[6.2.1] Number of Nodes developed and synergized	Number	22	23	26	30	32
	[6.3] Exchange of professional for international cooperation	[6.3.1] Number of exchange visit facilitated	Number	1100	1150	1150	1250	1300
	[6.4] Developing State S&T Councils mechanisms for S&T outreach	[6.4.1] Ratio of programmatic fund released to state S&T Councils as a percentage of core grants sanctioned for manpower	Ratio	1	1.05	1.05	1.2	1.2
	[6.5] Projects sanctioned through the Joint research fund	[6.5.1] Number of research Projects funded under the Joint research fund	Number	--	10	12	18	20
	[6.6] Investment through India Innovation Fund	[6.6.1] Number of companies supported	Number	--	3	2	3	3
	[6.7] Design of a scheme for fostering international S&T co-operation for Indian universities	[6.7.1] Preparation of DPR for the scheme	Date	--	--	07/01/2013	--	--

Section 3: Trend Values of the Success Indicators

Objective	Action	Success Indicator	Unit	Actual Value FY 10/11	Actual Value FY 11/12	Target Value FY 12/13	Projected Value for FY 13/14	Projected Value for FY 14/15
* Efficient Functioning of the RFD System	Timely submission of Draft for Approval	On-time submission	Date	05/03/2010	07/03/2011	06/03/2012	--	--
	Timely submission of Results	On- time submission	Date	02/05/2011	30/04/2012	03/05/2012	--	--
* Administrative Reforms	Implement mitigating strategies for reducing potential risk of corruption	% of implementation	%	--	--	95	--	--
	Implement ISO 9001 as per the approved action plan	Area of operations covered	%	--	--	95	--	--
	Identify, design and implement major innovations	Implementation of identified innovations	Date	--	--	06/03/2013	--	--
* Improving Internal Efficiency / responsiveness / service delivery of Ministry / Department	Implementation of Sevottam	Independent Audit of Implementation of Citizen's Charter	%	--	--	95	--	--
		Independent Audit of implementation of public grievance redressal system	%	--	--	95	--	--
* 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.	%	--	--	90	--	--
	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.	%	--	--	90	--	--
	Early disposal of pending ATNs on Audit Paras of C&AG Reports presented to Parliament before	Percentage of outstanding ATNs disposed off during the year.	%	--	--	90	--	--
* Mandatory Objective(s)								

Section 3: Trend Values of the Success Indicators

Objective	Action	Success Indicator	Unit	Actual Value FY 10/11	Actual Value FY 11/12	Target Value FY 12/13	Projected Value for FY 13/14	Projected Value for FY 14/15
	31.3.2012.							
	Early disposal of pending ATRs on PAC Reports presented to Parliament before 31.3.2012	Percentage of outstanding ATRs disposed off during the year.	%	--	--	90	--	--

* Mandatory Objective(s)

Section 4:

Description and Definition of Success Indicators and Proposed Measurement Methodology

A total number of 39 activities are given in Results-Framework Document (RFD) for 2012-13 including 9 new initiatives under all the six objectives of the Department. Accordingly, a total of 39 success indicators have been selected with 38 non-financial and 1 financial targets. Out of the total 38 non-financial activities, 30 activities have a number target which indicates Department's commitment for moving towards measurable performance. The department has proposed preparation of the Detailed Project Report (DPR) /Expenditure Finance Committee (EFC) for the new programmes in the first year of the 12th Five Year plan period. In such cases, date/time line has been chosen as success indicators.

Objective-wise Measurement System

1. Keeping in view the process involved in the submission of draft National Science, Technology and Innovation Policy to cabinet, a submission date has been selected as the success indicator. Department is committed for preparation of two performance reports on publications and patents for the science, technology and innovation output indicators (2000- 2010) for India, hence a date target (date of publication of the reports) is chosen as unit for success indicator.
2. In the category of strengthening basic research and expanding R&D base with human capacity all existing activities show number as their success indicators while, one new activity regarding completion of EFC for the programme for the employed women scientists for mid-career mobility within the country has date as the success indicator as it may require the consultation process among stake holders. The implementation of Innovation in Science Pursuit for Inspired Research (INSPIRE) Awards, INSPIRE Internships, Scholarships for Higher Education (SHE), INSPIRE Fellowships and INSPIRE Faculty positions are captured by number of awards/ internships/scholarships/ Fellowships/ faculty positions awarded. In order to seed and experience the joy of innovation, every year two lakh school children in the age-group of 10 to 15 years i.e., 6th to 10th standards are being identified for the INSPIRE award. Each INSPIRE Award envisions an investment of Rs.5,000/- per child. The basic objective of INSPIRE internship is to attract and motivate young talent to the study of science at an early age and to take-up research as a personal undertaking and thus build the required critical human resource pool. This scheme attracts youth to summer /winter camps for 5 days in which they get opportunity to interact with eminent scientists and academicians of all science subjects. The SHE scheme offers 10,000 scholarships every year @ Rs.80,000/- each for undertaking Bachelor and Masters level education in the Natural & Basic sciences. The INSPIRE Fellowship scheme aims at enhancing research fellowships for doctoral

Section 4:

Description and Definition of Success Indicators and Proposed Measurement Methodology

studies and opening up partnerships with private sector for topping the Government's efforts in nurturing talents for scientific research. INSPIRE Faculty Scheme opens up an 'Assured Opportunity for Research Career (AORC)' for young researchers in the age group of 27-32 years. It is expected to augment high quality scientific manpower in scientific and educational institutions. It provides attractive opportunities to young achievers for developing independent scientific profiles and intends helping them emerge as S&T leaders in the long term. The Scheme offers contractual research positions. The number of such components clearly demonstrates the depth of penetration and reach of these schemes across the country. Selection is done through a competitive process with transparency. Mapping the scheme on quality outcome would be integrated into the system in a long run. To measure the R&D competitiveness of the country, the Department generates some status reports on mapping of the publications/patents of the Indian researchers in Indexed Journals. A number of status reports prepared per year as an indicator of competitiveness of India will give the right measurement method. For the programme of strengthening of human capacity in research in identified thrust areas in Atmospheric Sciences, number of scientists benefited is appropriate success indicator.

3. Apart from a financial delivery target, there are number and date indicators used in the category of strengthening basic research and expanding R&D base with institutional capacity. To rebuild the S&T infrastructure in the country, Department support the universities and related academic institutions who are in dire need for strengthening the existing S&T infrastructure with adequate funding and associated flexibility. A developmental programme like Fund for Improvement of S&T infrastructure (FIST) in universities & higher educational institutions where the infrastructure building is a centre of concern, the level of funds utilized is appropriate success indicator. A proactive initiative to offset the setting of regional imbalances in the S&T system is proposed to be tackled by introducing special packages for less endowed regions for strengthening S&T education and research. The package focuses the augmentation of S&T education infrastructure, and enrichment of research efforts through exchange fellowships/ Summer School / Winter School. One regional package per year is envisaged. Hence the number of the package is set as a success indicator. Department proposes to establishment some new Centers under the Sophisticated Analytical Instrument Facility (SAIF). The programme provides facilities of sophisticated analytical instruments to researchers so as to help them in R&D activities. It has been proposed to launch a Programme for Research initiatives in Mathematics Education (PRIME). A date target has been fixed to launch the programme. The Department has been assigned a new programme on Super Computer facility and Capacity building during the 12th plan period. Preparation

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of DPR will become an activity and date target has been set up for this.

4. The Department is implementing Technology Development Programmes aimed at technology development and transfer in identified niche areas. The programme supports activities at developing and integrating technologies to evolve technology systems both in the advanced/emerging areas and in traditional sectors/areas. Under the programme, feasibility of newer ideas/concept is assessed for their potential conversion into useful technology/product. In order to train and nurture human resource in the area of Nano Science and Technology, the Nano Mission provides effective education and training to researchers and professionals in diversified fields through its Ph.D./M.Sc./M. Tech. programmes. A special initiative has been taken to revolutionize research in Cognitive Science. In implementation of technology development programmes, all activities have the number target as success indicators except one activity on demonstration and transfer of the test bed for potash technology from sea water to Ministry of Chemicals and Fertilizers. This activity has been assigned a date target for the transfer of the technology. Using a number target in technology assisted, convergent water technology solutions, projects supported under Solar Energy Initiative, Cognitive science and Nano Mission programmes, knowledge networks in climate change and clean energy will clearly demonstrate the progressive development, reach and depth of penetration of the programme. Initiative has been taken for promotion of PPP for R&D areas and increased engagement of Private sector in R&D. Number of projects initiated under PPP is the suitable success indicator. The Department has committed to preparing independent status report on impact/outcome of Technology Development Programmes. Number of Projects reviewed and status reports submitted is the right measurement method.
5. The National Science & Technology Entrepreneurship Development Board (NSTEDB) promotes and develops highend entrepreneurship for S&T manpower as well as self-employment by utilizing S&T infrastructure and by using S&T methods. NSTEDB networks agencies of the support system, academic institutions and R&D organizations to foster entrepreneurship and self-employing using S&T with special focus on backward areas as well. The broad objectives of the Science for Equity, Empowerment and Development (SEED) Division are providing opportunities to motivated scientists and field level workers to take up action oriented and location specific projects aiming towards socio-economic upliftment of poor and disadvantaged sections of the society through appropriate technological interventions especially in the rural areas. Under this program efforts have been made to associate concerned National Labs or other specialist S&T institutions with each major program so as to build-in expert input, utilize national S&T infrastructure and link it up with grassroots S&T interventions/initiatives. All activities

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under the societal interventions are measured in number terms which show a visible impact of the objective. The number of entrepreneurs assisted, support to women, field projects for science popularization, projects developed for tribal and other weaker sections and S&T backed entrepreneurship for tribal population indicates the reach of the programme. New programme viz. launching of model demonstration projects through Council of Science & Technology for Rural India (CSTRI) for rural application included under this objective also have the number target as the success indicator.

6. International S&T cooperation was well captured in terms of the number of MoUs signed, project sanctioned through Joint research fund and exchange of professional for international cooperation. For improving State-Center cooperation in S&T, a parameter like ratio of programmatic fund to core fund has been designed for measuring S&T outreach. Investment through India Innovation Fund can be suitably measured by a number of companies supported hence a number target is assigned for this activity. It has been proposed to design a scheme for international S&T co-operation for Indian universities. Preparation of a DPR for this scheme is required and a date target has been assigned for this.

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
Ministry of Chemicals & Fertilizers	Date of commissioning of the unit	Partnership in implementation	They are the main partner Ministry in Technology Transfer	Their full co-operation in implementing the project	The partnership will address subsidies in fertilizers

Section 6:
Outcome/Impact of Department/Ministry

Outcome/Impact of Department/Ministry	Jointly responsible for influencing this outcome / impact with the following department (s) / ministry(ies)	Success Indicator	Unit	FY 10/11	FY 11/12	FY 12/13	FY 13/14	FY 14/15
1 Global share of publications	R&D organizations, Universities, and Scientific institutions/ colleges research centers	% share of publication	%			TBD		
2 CAGR of S&T output in Publications	R&D organizations, Universities, and Scientific institutions/ colleges	% growth of publication	%			TBD		
3 CAGR of S&T output in Patents	R&D organizations, Universities, and Scientific institutions/ colleges	% growth of patents	%			TBD		
4 Ph.D. output in Science sector	R&D organizations, Universities, and Scientific institutions/ colleges	Total no. of Ph.D. produced	Number			TBD		
5 Private sector engagement in R&D	Industries/ Private Institutions and R&D organizations	% of Private sector investment in R&D	%			TBD		
6 Technology Scoping on per capita income (district level)	Central and State Government, NGO's, R&D organizations	% Growth in per capita income (district level)	%			TBD		
7 Technology commercialization for public funded R&D	Central Government, R&D organizations, Universities, Scientific institutions	% share of high technology content in import from India (US Index)	%			TBD		