

Thesis

Six year Development Plan

1999- 2004

National Science Foundation

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Thrust areas identified by the Ministry of Science & Technology

1. *Modernization of Science & Technology and Human Resources Development Institutions.*
 - Buildings
 - Plant & Machinery
 - Equipment & Supplies etc.

2. *Human Resources Development and Promotion*
 - S & T Personnel
 - Creation of Intermediate S&T Services
 - Development of Craftsmanship /Trade Skills Vocational Training

3. *Research & Development (R&D) work for Resource Based Product Development*
 - Metal Based Products
 - Mineral Based Products
 - Chemical Based Products
 - Agriculture Based Products
 - Bio-Technology Based Products

4. *R&D for knowledge Based Products Development*
 - Information Technology
 - Electrical & Electronics
 - Nuclear Technology Based Products etc.

5. *R&D for Power & Energy*
 - Alternative Energy
 - Energy Saving

6. *Commercialisation of Technology developed under (3) (4) &(5)*
 - Low-cost Housing
 - Agriculture Implements

7. *S&T services*

Thrust Area **Modernization of S&T institutions**

Investment Plan in Rs' 000

Physical Target

Year	1999		2000		2001		2002		2003		2004		Physical Target								
	R	C	R	C	R	C	R	C	R	C	R	C	1999	2000	2001	2002	2003	2004			
Programme	R	C	R	C	R	C	R	C	R	C	R	C									
Expansion of LAN to connect S&T libraries		150	100	162	110	175	121	189	133	204	146	220	161	Connect Met Dept, NIBM ITI, CARP, SLAAS, Insts of Eng & Arch.		Extend to CECB & Chartered Ins of Accts					
Establishment of Training center to train personnel on information and library sciences		25	(5000)	27	500	29	500	31	500	34	500	37	500	100%	Upgrade with additional accessories such as Audio & video equipment						
Upgrading the Printing Press			1200											100%							
Office Equipment Photocopying machine & furniture			350		385		424		466		512		564	100 % each year							
Minor Constructions Garage			50		55		61		67		73		81								
Upgrading the LAN at NSF		150	650	162	715	175	787	189	865	204	952	220	1047								
Auditorium				10000		5000									50%	50%					
Extension to the existing building				10000		5000									50%	50%					
Total		325	7350	351	21875	379	12014	409	2031	442	2184	478	2352								

Figures in brackets are from foreign sources of funds

R- Recurrent

C- Capital (includes foreign aid)

Thrust Area

Human Resources Development and Promotion

Investment Plan in Rs '000

Physical Target

Programme	1999		2000		2001		2002		2003		2004		Physical Target					
	R	C	R	C	R	C	R	C	R	C	R	C	1999	2000	2001	2002	2003	2004
Training of scientists and technicians through research grants The established Research grants scheme to continue with more facilities to be provided. This has helped in training many young scientists to conduct research and receive MPhil/PhD qualifications. Also has produced many national/international publications.		18244 (5000)		19244 (5000)		20000 (5000)		21000 (5500)		22000 (6000)		23000 (6500)	10 Post graduate degrees 20 publications and 30 final reports each year					
Research studentships /internships to conduct research at a post graduate Research Institute/Research centers		500		550		605		666		732		805	4-5 research studentships/internships					
Staff training Research assessment Policy studies Benefit monitoring and evaluation Information systems	100	(900) (100)	110	(1500)	121	(1650)	132	(1850)	144	(2000)	145	(2200)	Two persons on Research assesment per year, two persons on BME in 1999, one person on Information Systems in 1999 & 2000 and one person on Policy studies					
Participation in International Scientific work		100		110		121		133		146		161	3-5 persons per year (participation in international scientific work representing the NSF)					
Merit Awards for outstanding research to promote quality of research	50		54		58		63		68		73		Five awards , once in two years					
International Travel fund Provide financial support for scientists in the country to attend international scientific meetings. Sida/SAREC has been providing funds to operate this scheme since 1982.		(3000)		(3500)		(4000)		(4000)		(4000)		(4000)	Sixty travel grants per year					
Training of young science writers to guide and provide necessary facilities & resources for young scientists to enhance skills	60		65		70		76		82		88		One person at a time					
Total	210	22844	229	24904	249	26376	271	26649	294	28878	307	30166						

* Applies to all fields of study

** from ADB project

Figures in brackets are from foreign sources of funds

Thrust Area R&D work for resource based product development

Year	Investment Plan in Rs '000												Physical Target *					
	1999		2000		2001		2002		2003		2004		1999	2000	2001	2002	2003	2004
Programme	R	C	R	C	R	C	R	C	R	C	R	C						
Applied research grants to promote public sector research - industry interactions *		1000		2000		2200		2420		2662		2928	2 - 5 research grants per year to support research on Industrial product development					
Research Studentships to work in the industry sector on a research problem related to the particular industry				250		275		303		333		366	3-5 assistantships per year					
Total	1000		2250		2475		2723		2995		3294							

* Target to be achieved - Industrial product development through Univ-Industry partnerships

Figures in brackets are from foreign sources of funds

Thrust Area R&D for power and Energy

Year	Investment Plan in Rs '000												Physical Target					
	1999		2000		2001		2002		2003		2004		1999	2000	2001	2002	2003	2004
Programme	R	C	R	C	R	C	R	C	R	C	R	C						
Research grants in the area of Energy	20	1106 (500)	22	1250 (500)	24	1375 (550)	27	1513 (550)	29	1664 (600)	32	1830 (650)	Two unsolicited research projects and one invited (commissioned) research project per year					
Total	20	1106	22	1250	24	1375	27	1513	29	1664	32	1830						

Figures in brackets are from foreign sources of funds

Thrust Area

S&T support services

Investment Plan in Rs '000

Physical Target

Year	1999		2000		2001		2002		2003		2004		Physical Target						
	R	C	R	C	R	C	R	C	R	C	R	C	1999	2000	2001	2002	2003	2004	
Programme	R	C	R	C	R	C	R	C	R	C	R	C							
Multidisciplinary Research Programme Large Grants Scheme Projects of national interest to be carried out by recognised senior scientists. Emphasis will be on multidisciplinary research with collaborative work		14000 (13500)		14000 (13500)		15000 (13500)		15000 (13500)		15000 (13500)		15000 (13500)		Award of 3-4 multidisciplinary large grants with national interest (usually 2-3 year period). Policy recommendations					
Intellectual property rights Study developments concerning IPR in S&T, advise the ministry of S&T on relevant issues and the position to be taken with respect to the provisions of the TRIPS agreement, awareness workshops for the scientific community, assist the national IPR office in screening and evaluation of patent applications		100		110		121		133		146		161		One awareness leaflet in 1999, one awareness workshop a year. Report to the Ministry of S&T on IP issues concerning TRIPS agreement					
Man & Bio sphere Programme		525		660		726		799		878		966		One report each year					
Zoological survey		1000		1000		1000		1100		1100		1200		One poster & three reports each year					
Database development in the field of S&T	25		25		25		25		30		30			100 % update each year					
Seminars for popularisation of Science		400		440		484		532		586		644		Four seminars per year					
Consultancy /Special fellowships	182		197		212		229		248		267			One consultant /fellow per year					
Workshops / conferences /seminars Identified S&T subject areas publicise resources and services available at NSF and training on utilisation of information services		360		396		436		479		527		580		Ten theme seminars, Ten progress review seminars and five workshops on training on utilisation of information services per year					
Remote access to S&T libraries	25		25	0	25	0	25	0	0	0		0		Ten S&T institutions will be provided with remote access per year					
Purchase of Books / periodicals & electronic media for the library	97	150	200	165	300	182		200		220		242		70 books, 25 journals and 4 CD -rom databases per year					
Exhibitions	169		183		201		221		243		267			Participation at three exhibitions per year					
S&T Manpower Information system NSF would establish a S&T manpower information system for the country under ADB project on S&T manpower development of the Ministry of S&T	Budgetted under the ADB project on S&T manpower development of the Ministry of S&T												Establishment of Manpower Information system by year 2003 under the ADB project						

Policy studies NSF conduct policy studies on Manpower, R&D expenditure, research output, facilities, and research performances of R&D institutions. The studies are supported by SAREC funds		(2000)	0	(2100)	0	(2200)	0	(2400)	0	(3500)	0	(3600)	Reports on S&T indicators, current research, research Institutions and facilities, Research performance and evaluation, Research output
Special Publications of national importance beneficial to the public and policy makers such as Manual for protected fauna & flora Natural Resources		1565		1690		1825		1971		2129		2299	Three publications per year
Publications Journal of National Science Foundation, vidurava, Other (includes Science Education series, News letter, Journal of Social Sciences and publications arising from Working committees)	607		656		708		765		826		892		Four volumes per year from JNSF, vidurava and News letter, one volume of JSS per year and 2-3 reports from working committees.
S&T Cooperation with international agencies Coordination of nominations for participation in workshops, conference etc. organised by international agencies and dissemination of information on programmes useful to the scientific community to make use of the mechanisms available. (Agencies such as SAARC, CSC, ASTINFO, TWAS, ICSU, ASCA, ICGEB, ISTC, STC, NSC, STEPAN)	1264		1365	0	1474	0	1592	0	1720	0	1857	0	Target will vary with the programmes of the respective agency
Total		2369	20100	2650	20561	2945	21974	2857	22615	3066	23086	3314	23632

Figures in brackets are from foreign sources of funds

Administration Investment Plan in Rs '000

Programme	Year 1999		2000		2001		2002		2003		2004	
	R	C	R	C	R	C	R	C	R	C	R	C
Salaries & Allowances	11,213		12110		13079		14125		15255		16476	
EPF	1,682		1817		1962		2119		2288		2471	
ETF	336		363		392		424		458		494	
Grativity	200		216		233		252		272		294	
Overtime	200											
Holiday Payment	25		27		29		31		34		37	
Uniforms	80		86		93		101		109		118	
Travelling & Allowances to Authority members	66		71		77		83		90		97	
Refreshments for meetings	50		54		58		63		68		73	
Travelling	10		11		12		13		14		15	
Stationary & Consumables	500		540		583		630		680		735	
Electricity	400		432		467		504		544		588	
Telephone /Fax	325		351		379		409		442		478	
Postage	100		108		117		126		136		147	
Audit Fees	100		108		117		126		136		147	
Bank Charges	17		18		20		21		23		25	
Medical Expenses	100		108		117		126		136		147	
Advertising	150		162		175		189		204		220	
Maintenance of Motor vehicles	528		570		616		665		718		776	
Maintenance of Office Equipment's & Furniture	325		351		379		409		442		478	
Maintenance of Building	150		162		175		189		204		220	
Staff Welfare	95		103		111		120		129		140	
Insurance Charges	260		281		303		328		354		382	
Water Consumption	100		108		117		126		136		147	
Security Services	340		367		397		428		463		500	
Sundry Expenses	100		108		117		126		136		147	
NSF committees	280		302		327		353		381		411	
S&T indicators Unit	44		48		51		55		60		65	
Vehicle				1200						2500		
Consolidated fund provision		100		108		117		126		136		147
Total	17776	100	18983	1308	20501	117	22141	126	23913	2636	25826	147

Grand Total	20700	52500	22234	72148	24099	64331	25705	55655	27744	61443	29956	61482
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