

Grant No. 22
26 - Ministry of Science and Information & Communication
Technology

Medium Term Expenditure

(Taka in Thousand)

	Budget 2010-11	Projection 2011-12	Projection 2012-13
Non-Development	280,00,00	297,88,61	321,33,33
Development	169,56,00	209,40,57	256,66,67
Total	449,56,00	509,00,00	578,00,00

1. Mission Statement and Major Functions

1.1 Mission Statement

To attain the overall socio-economic development of the country through science and ICT related research, development, extension and the successful application of these activities.

1.2 Major Functions

- (a) Formulate national policies on science and technology and coordinate the science and technology based initiatives and activities of the different Ministries;
- (b) Implementation of recommendations of the National Council for Science and Technology (NCST) and National ICT Task Force;
- (c) Provide grants and overall assistance to agencies in the science and technology sector including non-government scientific organisations, undertake surveys, sampling, research and development in the science and technology sector and provide access to funding for such activities;
- (d) Liaise with different countries and international organisations in the science and technology sector and also implement agreements and assistance programmes in these relevant sectors;
- (e) Formulate policies relating to radioactive substance and atomic energy and pursue matters relating to the establishment of atomic power plants;
- (f) Coordinate potential and new technology-based research activities including marine resources, chemical metrology, electronics and outer space and assist in the development of the related infrastructure and human resources;
- (g) Promote, extend and popularise new science related initiatives and organise an annual National Science and Technology Week with support from research and educational institutions;
- (h) Assist in the introduction of good governance in the country through the use, application and expansion of information and communication technology.

2. Medium Term Strategic Objectives and Key Activity

Medium Term Strategic Objectives	Key Activity	Implementing Departments/Agencies
1. Vision 2021: Formulate and update appropriate science and technology related policies	<ul style="list-style-type: none"> Formulate and update National Science and Technology policy Formulation of a cell for implementing National Information and Communication Policy, and initiating & implementing various programmes in this regard 	<ul style="list-style-type: none"> Secretariat
	<ul style="list-style-type: none"> Formulate rules under the ICT Act and prepare a coordinated work plan for the development of ICT 	<ul style="list-style-type: none"> Secretariat Bangladesh Computer Council
2. Develop human resource skills in ICT	<ul style="list-style-type: none"> Create opportunities in computer training for secondary and higher secondary students 	<ul style="list-style-type: none"> Bangladesh Computer Council
	<ul style="list-style-type: none"> Design standards for ICT training institutes and course curricula 	
	<ul style="list-style-type: none"> Training on information technology for the field-level government officials 	
	<ul style="list-style-type: none"> Skill development of ICT professionals for local and international markets 	
3. Promote research in the Science and ICT sector	<ul style="list-style-type: none"> Provide fellowships to researchers Provide grants to organisations working in the field of science and technology and non-government scientific organisations and societies 	<ul style="list-style-type: none"> Secretariat BCSIR
	<ul style="list-style-type: none"> Provide opportunities for Science, Biotechnology and ICT training and higher studies to researchers to improve their professional competencies 	<ul style="list-style-type: none"> Secretariat BAEC BCSIR BCC
4. Promote ICT amongst the poor and disadvantaged people	<ul style="list-style-type: none"> Establishment of ICT Training Centres in the districts 	<ul style="list-style-type: none"> Bangladesh Computer Council
	<ul style="list-style-type: none"> Establishment of e-Community Centres at the Upazila level 	
	<ul style="list-style-type: none"> Creation of employment opportunities for ICT trained skilled human resource 	
5. Develop infrastructure for the expansion of the ICT sector	<ul style="list-style-type: none"> Building infrastructural facilities, such as- high tech park, IT village, software technology park, 	<ul style="list-style-type: none"> Bangladesh Computer Council

Medium Term Strategic Objectives	Key Activity	Implementing Departments/Agencies	
	for commercial use of information technology		
	<ul style="list-style-type: none"> • Establishment of a National Technology Transfer Centre 	<ul style="list-style-type: none"> • Secretariat 	
	<ul style="list-style-type: none"> • Introduction of digital office management system 	<ul style="list-style-type: none"> • Secretariat 	
	<ul style="list-style-type: none"> • Provide internet facilities at important ministries and departments, and introduce digital systems for storage and management of official information • Bringing all the Ministries at the Secretariat under WAN • Development of e-Content and e-Service 	<ul style="list-style-type: none"> • Secretariat • Bangladesh Computer Council 	
6. Expansion of environmentally friendly biotechnology and sustainable technology for socio-economic development	<ul style="list-style-type: none"> • Organise Science Exhibitions and Olympiad at district and national level 	<ul style="list-style-type: none"> • Bangladesh Computer Council • National Science and Technology Museum • Bhasani Novo Theatre • Secretariat 	
	<ul style="list-style-type: none"> • Encouraging scientific knowledge persuasion and creative works through entertainment 		
	<ul style="list-style-type: none"> • Conduct research on oceanographic resources 	<ul style="list-style-type: none"> • Secretariat 	
	<ul style="list-style-type: none"> • Collect, preserve and disseminate information at all levels on science and ICT 	<ul style="list-style-type: none"> • BANSDOC 	
	<ul style="list-style-type: none"> • Conduct research on non-conventional energy, public health and ensuring quality of food and extension of related innovative technology 	<ul style="list-style-type: none"> • BCSIR 	
7. To provide technology-based services	<ul style="list-style-type: none"> • Improvement of existing nuclear medical centres and construction of new centres 	<ul style="list-style-type: none"> • Bangladesh Atomic Energy Commission 	
	<ul style="list-style-type: none"> • Setting standards for radio active equipment used in diagnostic laboratories and medical treatment 		
	<ul style="list-style-type: none"> • Provide medical treatment facilities to the patients through the production of Radioisotope 		

Medium Term Strategic Objectives	Key Activity	Implementing Departments/Agencies
	<ul style="list-style-type: none"> • Prepare various tissue grafts used in surgery supply those to hospitals after sterilizing with radiation 	
	<ul style="list-style-type: none"> • Identify the prevalence of hypothyroidism among the new born 	
	<ul style="list-style-type: none"> • Provide information technology services for commerce, industries and economic growth through strengthening monitoring and research facilities to determine and ensure quality of the products produced locally and for exports and imports 	<ul style="list-style-type: none"> • BCSIR
<ul style="list-style-type: none"> • Conduct research on herbal medicine 		
8. Promote the peaceful use of nuclear energy	<ul style="list-style-type: none"> • Accomplish the preliminary activities in establishment of Rooppur Nuclear Plant 	<ul style="list-style-type: none"> • Bangladesh Atomic Energy Commission
<ul style="list-style-type: none"> • Strengthen the activities of the existing Atomic Energy Research centres and establish new nuclear centre 		
<ul style="list-style-type: none"> • Establish laboratories suitable for the application of nuclear analytical techniques 		
<ul style="list-style-type: none"> • Expand the use of nuclear technology in the protection and development of lives, properties and environment 		

3. Poverty and Gender Reporting

3.1 Impact of Strategic Objectives on Poverty Reduction and Women's Advancement

3.1.1 Vision 2021: Digital Bangladesh- Formulate and update appropriate science and technology related policies

Impact on Poverty Reduction: Science and ICT policies were and are being formulated and updated by incorporating issues pertaining to poor people's health, nutrition, improvement in education and overall welfare to create Digital Bangladesh by 2021. In addition, the integrated ICT development work plan includes issues that will enhance the socio-economic welfare of the poor.

Impact on Women's Advancement: Special attention will be given to women's needs when formulating, updating and implementing policies relating to science and technology, which will contribute to the overall welfare

of women. In addition, issues that address the welfare of women were also included in the integrated ICT development work plan.

3.1.2 Develop human resource skills in ICT

Impact on Poverty Reduction: Poor people will be trained in ICT and through the ICT centres there will opportunities for skill development by participating in training, employment at the centres and other income generating activities.

Impact on Women's Advancement: Whilst women are eligible to be included in regular training courses, also some special training courses were arranged for them. This will result in their skill development and empowerment and their opportunities to participate in income generating activities will increase.

3.1.3 Promote Research in the Science and ICT sector

Impact on Poverty Reduction: No direct impact, but with the expansion of the use of new technology innovated through research on agriculture, fisheries and non-agriculture activities opportunities for employment and income generating activities for the poor people will be created. Monitoring and evaluation of the government poverty reducing activities will be easier through use of ICT.

Impact on Women's Advancement: No direct impact. But, expansion of the use of improved technology will contribute to reduce the daily work hours of women and their participation in the knowledge based labour market will also increase. Through the use of ICT, the review and monitoring of government gender related activities will also be easier.

3.1.4 Promote ICT amongst the poor and disadvantaged people

Impact on Poverty Reduction: Opportunities will be created for poor people to obtain information on trade and commerce, as information centres are being established at the Upazila level. This information on demand, supply and fair pricing will curb the power of the middle men and improve the commercial benefits for the poor. Use of ICT in governance will also help poor people access to government services.

Impact on Women's Advancement: Women will be given priority at the ICT centres and will also be involved with the work of the ICT centres. This will increase women's participation in trade and commerce and also in the labour market.

3.1.5 Develop infrastructure for the expansion of the ICT sector

Impact on Poverty Reduction: This will have an indirect impact on poverty reduction. Jobs will be created for the poor people in the infrastructure development work.

Impact on Women's Advancement: This will have an indirect impact on women's advancement. A small number of employment opportunities are being created for women through their involvement in infrastructure development activities.

3.1.6 Expansion of environmentally friendly biotechnology and sustainable technology for socio-economic development

Impact on Poverty Reduction: Poor people will be trained and motivated to become involved in science education and modern technology by organising science Olympiad, documentaries on science, exhibitions, and seminars etc. Attempts are being made to make the best use of unutilised and under utilised resources by using the latest science and technology information from home and abroad and innovations in improved technology in the areas of non-conventional energy e.g. solar power, biogas etc. As a result the best utilisation of resources, that poor people have easy access to, will be ensured and their income and their standard of living will increase.

Impact on Women's Advancement: Research on products and goods that women use e.g., household products, appliances, drinking water etc., can contribute to women's advancement. Women's involvement is also ensured through the dissemination of knowledge of science at the grassroots level and assistance is being provided for women's empowerment and to upgrade their social status.

3.1.7 Improve nuclear technology-based services, especially those related to medical services

Impact on Poverty Reduction: The scope to provide cheap and improved nuclear health services for the poor has been expanded. The ancillary costs associated with health services will be reduced because of access to these facilities at competitive prices and within a relatively short distance.

Impact on Women's Advancement: The treatment of some complicated female diseases is now possible through the use of radioactive isotopes under the nuclear medical treatment system. This has improved the access of women to public services.

3.1.8 Promote the peaceful use of nuclear energy

Impact on Poverty Reduction: The generation of power from atomic sources and its use for uninterrupted irrigation and other related activities will increase agricultural and non-agricultural production and will contribute to poverty reduction. Examination of the level of radioactivity in imported food and the control of nuclear radiation within the country will protect the population from the harmful effects of them.

Impact on Women's Advancement: This will have indirect impact on the advancement of women.

3.2 Allocation for Poverty Reduction and Women's Advancement

(Taka in Thousand)

Particulars	Budget 2010-11	Projection 2011-12	Projection 2012-13
Poverty Reduction	45,29,24	52,10,74	63,68,62
Gender	22,52,56	25,38,62	31,00,04

4. Priority Spending Areas/Programmes

Priority Spending Areas/Programmes	Related Strategic Objectives
<p>1. Vision 2021: Digital Bangladesh This sector has been given highest priority to establish the IT sector as the top foreign exchange earner through development of skilled manpower, infrastructure and entrepreneurship.</p>	<ul style="list-style-type: none"> • Vision 2021- Digital Bangladesh: Formulate and update appropriate science and technology related policies • Promote ICT amongst the poor and disadvantaged people • Develop infrastructure for the expansion of the ICT sector
<p>2. Expand peaceful use of nuclear energy: The provision of medical treatment facilities at different parts of the country contributes significantly towards the protection of the health of people in Bangladesh. Besides, nuclear power is considered more environments friendly and a more cost effective option than any hydro-carbon based power (especially as the existing natural gas reserve is at critical stage). This is why this sector is given priority.</p>	<ul style="list-style-type: none"> • Provide nuclear technology-based services • Promote the peaceful use of nuclear energy
<p>3. Create awareness on the use of biotechnology and research on environment friendly sustainable technology for the poor: It is necessary to create mass awareness on innovation of environment friendly new high yielding varieties through application of genetic engineering for increase of production in agriculture and non-agriculture sector, use of non-conventional energy for energy savings and use of biotechnology. In addition, this sector has been given priority considering the need for research and development in the innovation of proper system for food processing so that food item free of poisonous/harmful materials and pure drinking water can be made available, water purification filter, innovation of environment friendly technology for development of balanced and nutritious food varieties.</p>	<ul style="list-style-type: none"> • Expansion of environmentally friendly biotechnology and sustainable technology for socio-economic development
<p>4. Establish Ministry of Science and ICT as a model e-Governance Ministry: This sector has been given priority in order to motivate other ministry/divisions to take initiative for establishing e-governance by practically demonstrating the efficiency, effectiveness, suitability and practical application of the use of digital technology at the official government to government (G2G) communication and other official activities.</p>	<ul style="list-style-type: none"> • Vision 2021- Digital Bangladesh: Formulate and update appropriate science and technology related policies • Develop infrastructure for the expansion of the ICT sector

Priority Spending Areas/Programmes	Related Strategic Objectives
5. Develop the infrastructure for conducting research on oceanographic resources: For conducting research work on maximum, proper and sustainable use of vast unutilised/ less utilised resources in the Bangladesh water territory of the Bay of Bengal appropriate infrastructure and human resource development are needed. For this reason this sector has been given priority.	<ul style="list-style-type: none"> Expansion of environmentally friendly biotechnology and sustainable technology for socio-economic development

Key Performance Indicators (KPIs)

Indicators	Related Strategic Objectives	Unit	Target 2008-09	Actual 2008-09	Target 2009-10	Revised Target 2009-10	Medium Term Targets		
							2010-11	2011-12	2012-13
1. Innovation of new technology	4,7	Number	77	66	79	78	101	110	119
2. Creation of employment opportunity	4	Number	6,418	3,918	9,000	9,000	9,500	11,000	22,000
3. Software development and e-services delivery	4,5	Number	-	-	50	50	100	200	300
4. Installation of nuclear power plant	8	Progress in %	1	1	3	4	7	10	15
5. Human resource development	2,3,4	Number	5,120	5,797	5,275	5,475	7,330	7,980	8,730

5. Recent Achievements, Key Activities and Outputs of the Departments and Agencies under the Ministry

5.1 Secretariat

5.1.1 Recent Achievements: To implement Vision 2021 for creating Digital Bangladesh, following Acts have been formulated/amended/approved- (1) amendment of National Science and Technology Policy, (2) inclusion of ICT in the Allocation of Business of the Ministry, (3) BANSDOC Act-2009, (4) Bangabandhu Sheikh Mujibur Rahman Novo Theatre Act-2009, (5) Bangladesh Science & Technology Museum Act-2009, (6) National Institute of Biotechnology Act-2009, and (7) Bangladesh High Tech Park Authority Act-2009. Besides, the Information and Communication Technology Act, ICT Policy-2009 and the National Biotechnology Policies, 2005 were formulated. The National Institute of Biotechnology was established. In accordance with international convention, the web addresses of all government offices including ministries and divisions have been standardised by adding the **.gov.bd** domain. To protect copyright of locally designed software, Copyright Act-2000 was amended. Also, the Bangabandhu Fellowship was reintroduced. During 2009-10, financial assistance for 185 scientific

researches and fellowships to 409 students/researchers were provided. To make ICT hardware and software available and to create employment opportunities, initiatives for setting up of IT Village and High Tech Park are at final stage.

5.1.2 Key Activities, Outputs related to the Activity and related Strategic Objectives

Key Activity	Outputs related to the Activity	Related Strategic Objectives
1. Formulating and updating national science and technology policy	<ul style="list-style-type: none"> Facilitate to formulate economic development strategies 	1
2. Formulation of a cell for implementing National Information and Communication Policy, and initiating & implementing various steps and programmes in this regard	<ul style="list-style-type: none"> Formulation of a cell for implementing National Information and Communication Policy Achieve the targets of Vision 2021 by monitoring and implementation of National Information and Communication Technology Policy 2009 	1
3. Formulate rules under the ICT Act and prepare a coordinated work plan for the development of ICT	<ul style="list-style-type: none"> Formulate necessary rules under the Information and Information and Communication Technology act 	1
4. Provide fellowships to researchers	<ul style="list-style-type: none"> Fellowships awarded to 300 researchers 	3
5. Provide grants to organisations working in the field of science and technology including non-government scientific organisations/societies	<ul style="list-style-type: none"> Grants given to 150 research projects Create higher education opportunity for 200 persons under the Bangabandhu Fellowship programme 	3
6. Conduct training on science, biotechnology and information technology to improve professional efficiency	<ul style="list-style-type: none"> Higher training for 20 persons Conduct 13 research programmes under the National Institute of Biotechnology 	3
7. Establishment of National Technology Transfer Centre	<ul style="list-style-type: none"> Build infrastructure of National Technology Transfer Centre 	5
8. Introduction of digital office management system	<ul style="list-style-type: none"> Introduction of digitalization of minutes and working papers of the meetings and office filing system by 2011 	5
9. Broadband internet facility for important Ministries and Government organizations	<ul style="list-style-type: none"> Expand ICT facilities to all important government offices 	5

Key Activity	Outputs related to the Activity	Related Strategic Objectives
10. Bringing all Ministries at the Secretariat under WAN	<ul style="list-style-type: none"> Bringing all Ministries at the Secretariat under WAN to establish inter-Ministry communication system 	5
11. Development of e-content and e-service	<ul style="list-style-type: none"> Development of necessary facilities for e-content and e-service 	5
12. Organise Science Exhibitions and Olympiad at district and national level	<ul style="list-style-type: none"> Organise one Science Olympiad at school and college levels in 64 districts every year 	6
13. Encouraging scientific knowledge persuasion and creative works through entertainment	<ul style="list-style-type: none"> Organization of 5 exhibitions everyday (excluding weekends) at the Bangabandhu Sheikh Mujibur Rahman Novo Theatre Provide primary knowledge to about 825 visitors on astronomy and space science through informal education 	6
14. Conduct research on oceanographic resources	<ul style="list-style-type: none"> Build necessary infrastructure for research on oceanographic resources 	

5.1.3 Output Indicators and Targets

Output Indicators	Unit	Actual 2008-09	Target 2009-10	Revised Target 2009-10	Medium Term Targets		
					2010-11	2011-12	2012-13
1. Arrange exhibition for informal science education	Number	1,065	1,100	1,100	1,100	1,100	1,100
2. Education through exhibition on space science for the visitors	Lac Person	1.82	1.83	1.84	1.85	1.90	1.95
3. Research and development of biotechnology	Number Person	08 50	08 150	08 200	10 250	12 300	13 400
4. Research and development on bio-technology	Person	480	409	409	500	600	700
5. Award Fellowship	Number of projects	148	185	185	250	350	450

5.1.4 Forward Budget Estimates

(Taka in Thousand)

	Budget 2009-10	Revised 2009-10	Budget 2010-11	Projection 2011-12	Projection 2012-13
Non-development	10,16,21	9,99,92	11,90,62	11,45,57	11,61,25
Development	7,85,00	1,95,00	37,31,00	44,14,44	86,99,51
Total	18,01,21	11,94,92	49,21,62	55,59,98	98,60,76

5.1.5 List of Projects, Programmes and Operational units

Operational Unit/ Project/Programme	Related Key Activity
Operational Unit	
1. Secretariat	
Approved Projects	
1. Establishment of National Oceanographic Research Institute (1 st Phase)	14
Unapproved Projects	
1. Establishment of South Asia Sub-regional Economic Cooperation (SASEC) Information Highway (Bangladesh Part)	11
2. National Institute of Technology Transfer	7
3. Bangabandhu Fellowship on Science and Information & Communication Technology	4,5
Operational Unit	
National Institute of Biotechnology	
Unapproved Projects	
1. Increase of production in the agricultural and industrial sector using genetic engineering	6
Operational Unit	
Bangabandhu Sheikh Mujibur Rahman Novo Theatre	
Unapproved Projects	
1. Decorating Bangabandhu Sheikh Mujibur Rahman Novo Theatre by collecting scientific display items	13

5.2 Bangladesh Atomic Energy Commission

5.2.1 Recent Achievements: By strengthening the existing nuclear medical centres more patients are being treated. As a result income of these institutions has increased. The Institute of Nuclear Medicine and Ultrasound was established at BSMMU to identify the possibility of congenital hypo-thyroid diseases in new born babies and already blood samples from 40 thousand new-born have been collected and analyzed. Services on quality control and gradation of radiation measurement equipments used in various organizations are being given and research activities are being conducted through activation analysis. Primary activities have begun for installation of a nuclear power plant at Ruppur. Through Radiation Processing Technology various items are now being produced and through technological advancement skill of human resources are now being developed.

5.2.2 Key Activities, Outputs related to the Activity, and related Strategic Objectives

Key Activity	Outputs related to the Activity	Related Strategic Objectives
1. Provide opportunities for ICT training and higher studies to researchers to	<ul style="list-style-type: none"> Establishment of a full fledged training institute of international standard 	3

Key Activity	Outputs related to the Activity	Related Strategic Objectives
improve their professional competencies		
2. Improvement of the existing nuclear medical centres and construction of new centres	<ul style="list-style-type: none"> • Reform existing 9 nuclear medical centres and modernisation of one centre • A nuclear medical centre with PET-CT technology will be established at Mohakhali Cancer Institute 	7
3. Setting standards for radio active equipment used in diagnostic laboratories and medical treatment	<ul style="list-style-type: none"> • Gradation and standardisation of equipments like survey metre, pocket decimetre, area monitor etc. • Increase capacity for gradation of radiotherapy sources (Telegraphy, Deep-Therapy, X-ray, Linear Accelerator, Brachytherapy etc.) used for cancer treatment, measure level of doses and ensure quality control • Gradation of radiation beams (X-ray, CT scan, MRI, Mammography etc.) used in diagnostic laboratories and ensure quality control 	7
4. Provide medical treatment facilities to patients through the production of radioisotope	<ul style="list-style-type: none"> • Establish TC-99 producing research laboratories and extension to supply necessary isotopes 	7
5. Preparation of various tissue grafts for surgery and supplying those to hospitals after sterilizing with radiation	<ul style="list-style-type: none"> • Expansion of research laboratories to provide services at national level 	7
6. Identify prevalence of hypothyroid among the new born	<ul style="list-style-type: none"> • Create mass awareness on congenital hypothyroid disease among new born babies • Identify the possibility of this disease amongst the new born babies in 14 medical centres 	7
7. Accomplish the preliminary activities in the establishment of Ruppur nuclear power plant	<ul style="list-style-type: none"> • Perform essential activities to facilitate for the establishment of 1000 MW nuclear power plant at Ruppur 	8
8. Strengthen the activities of the Atomic Energy Research centres and establish new nuclear centre	<ul style="list-style-type: none"> • Renovation of physical infrastructure, procurement & replacement of modern equipments for the laboratories and collection of research works, journals, books and chemicals for 	8

Key Activity	Outputs related to the Activity	Related Strategic Objectives
	the Atomic Energy Centre in Dhaka	
9. Establish laboratories suitable for the application of analytical nuclear techniques	<ul style="list-style-type: none"> • Build infrastructure for the preparation of materials through radiation processing technology, improvement of quality and longevity of different materials, sterilize medical equipment, and conservation of food • Controlling and ensuring quality of the products of export oriented industries and earning foreign currency by expanding export • Building new infrastructures for research activities and human resource development 	8
10. Expand the use of nuclear technology in the protection and development of lives, properties and the environment	<ul style="list-style-type: none"> • Reduce radiation risks arising out of use of radioactive materials and radiation sources, conduct inspection, monitoring, issue of license, control of radiation level in the imported food items and convert analogue systems into digital systems of radio active accident research reactor, and install a PC based modern digital console • Examining radiation level in exported/imported food items • Measuring radiation level of the employees working at the atomic centres and ensuring their safety • Replacing the analogue system of radiation incident research reactor with PC based digital console • Determine radiation pollution levels in water, soil, air, vegetables and other food items and prepare recommendations for control • Taking steps to ensure quality of goods and providing related services 	8

5.2.3 Output Indicators and Targets

Output Indicators	Unit	Actual 2008-09	Target 2009-10	Revised Target 2009-10	Medium Term Targets		
					2010-11	2011-12	2012-13
1. Nuclear treatment and health service	Person (In lac)	6.00	5.00	7.00	7.50	7.50	8.00
2. Establishment of nuclear power plants	Progress (%)	1	3	4	5	7	10

Output Indicators	Unit	Actual 2008-09	Target 2009-10	Revised Target 2009-10	Medium Term Targets		
					2010-11	2011-12	2012-13
3. Determination & development of product quality through technological advancement and analyses, and providing related services	Number in thousand)	-	-	-	65.00	75.00	80.00

5.2.4 Forward Budget Estimates

(Taka in Thousand)

	Budget 2009-10	Revised 2009-10	Budget 2010-11	Projection 2011-12	Projection 2012-13
Non-development	57,00,00	68,24,01	70,72,02	76,06,66	35,62,66
Development	86,80,00	86,98,00	70,27,00	58,34,21	90,28,23
Total	143,80,00	155,22,01	140,99,02	134,40,87	125,90,89

5.2.5 List of Projects, Programmes and Operational units

Operational Unit/Project/Programme	Related Key Activity
Operational Unit	
Bangladesh Atomic Energy Commission	
Approved Projects	
1. Perform Essential Activities for Establishing 1000 MW Ruppur Power Plant (2008-2011)	7
2. Strengthening of Nuclear Medicine Ultrasound Centres at Mitford, Comilla, Faridpur (2006-10)	2,3
3. Identification of the prevalence of hypothyroid among the new-born (2006-2010)	6
4. Expansion of research and service facilities of the Nuclear Medicine Centres at Bogra, Barisal, Khulna, Mymensingh and Rangpur and production of TC-99 kits (2006-2011)	2,3
5. Strengthening of TRIGA MARK II Research Reactor use (2006-10)	9,10
6. Strengthening SSD laboratory facilities (2006-10)	3
7. Atomic Security and Radiation Control Department-2nd phase and Strengthening Control System of TRIGA MARK II research Reactor (2005-2012)	10
8. Application of Radiation Processing Technology for Materials; Pilot Plant, Institute of Polymer Technology (1998-2010)	10
9. Use of isotope hydrology for extraction of ground water resources (2006-2009)	10
10. Establishment of Institute of Nuclear Science and Technology a) Training institute and laboratory facilities b) Tandem accelerator facilities (2006-2011)	1
11. Establishment of a Nuclear Power Plant at Chittagong (2006-11)	8
12. Expansion and Modernisation of Research Facilities at Nuclear Power Plant, Dhaka (2006-11)	8

Operational Unit/Project/Programme	Related Key Activity
13. Establishment of Centre of Excellence for use of VLSI technology in Bangladesh (2006-11)	10
Unapproved Projects:	
Use of solar power and development of related technologies	10
Probable/Unapproved Projects:	
1. Establishment of PET-CT Technology and Concern Services (2007-2012)	2
2. Establishment of Nuclear Medicine Centre at the Campus of the Cancer Institute at Mohakhali (2008-2012)	2
3. Production of Hydrogen Driven Energy and the Establishment of Research Laboratory for Technology Extension (2008-2011)	10
4. Installation of Ruppur Nuclear Power Reactor	7,8
5. Establishment of NDT Institute for use in Research and Industry	9
6. Establishment of Tissue Banking Institute at the National level	5
7. Strengthening of Existing Facilities and Beautification of Atomic Energy Research Institute, Savar	8
8. Strengthening of the Low Level Production of Electronics Systems and Capacity Building in the Electronic Laboratories	9,10
9. Capacity building and Expansion of Facilities for Undertaking Research on Developing Mineral Resources in Beach Sand	9,10
10. Establishment of a Medical Care Centre at the Atomic Energy Research Institute, Savar	2
11. Establishment of Nuclear Medicine Centre in Noakhali	2
12. Establishment of Nuclear Medicine Centre and a Sterile Insect Unit in Cox's Bazar	2
13. Establishment of a Nuclear Medicine Centre at the Shaheed Sohorawardi Medical Hospital Premises	2
14. Construction of Nuclear Medicine Centres in Gopalganj, Kishoreganj and Jamalpur Medical Hospital Premises	2

5.3 Bangladesh Council for Scientific Industrial Research (B.C.S.I.R.)

5.3.1 Recent Achievements: Toxic formalin detection kit was invented and supplied to the market monitoring authorities. Capacity was developed to detect toxic hydrose in sugar. Spirulina related technology was leased out to 13 industrial entrepreneurs. The quality and effectiveness of 12 arsenic eradication technologies were tested. Various technologies, such as-removing H₂S from biodiesel/bio-oil/biogas, energy saving L.E.D. lamp, hybrid solar oven, solar dryer etc, have were invented. Studies on dual-fuel technology plant were carried out. Three samples have been prepared from low cost raw materials for making tiles. During the last three years, sixty-seven technologies were invented and transferred to the industrial entrepreneurs for industrial use. During 2008-09, total 2971 industrial/commercial products from various industrial and export/omport oriented organizations were analyzed.

5.3.2 Key Activities, Outputs related to the Activity, and related Strategic Objectives

Key Activity	Outputs related to the Activity	Related Strategic Objectives
1. Award fellowships to researchers and create higher study opportunities for them	<ul style="list-style-type: none"> • Fellowships to 46 researchers • Invention of 265 new technologies and lease of those to industrial entrepreneurs for commercial use 	3
2. Provide grants to organisations working in the field of science and technology including non-government scientific organisations/societies	<ul style="list-style-type: none"> • Provide assistance to 90 researchers in higher studies • Provide opportunities of research for 100 university students of different levels 	3
3. Conduct trainings on science, biotechnology and information technology to increase professional competency	<ul style="list-style-type: none"> • Conduct training for 300 persons 	3
4. Conduct research on non-conventional energy (such as biogas, biomass, biodiesel, solar power, wind power, hydro etc.) and transfer of invented technologies	<ul style="list-style-type: none"> • Innovation of technology for generation of electricity from poultry based biogas and technology for bio-diesel • Develop long lasting AC LED bulb 	6
5. Conduct research on public health and ensuring quality of food and extension of related innovative technology.	<ul style="list-style-type: none"> • Processing and preservation of fruits, vegetables, fish, meat etc. and invention of 20 technologies for improvement of food quality • Invention of technologies to test food quality and detect the presence of toxic materials (such as, formalin, melamine, urea etc.) 	6
6. Provide information technology services for commerce, industries and economic growth through strengthening monitoring and research facilities to determine and ensure quality of the products produced locally and for export-import	<ul style="list-style-type: none"> • Solving 3150 problems of industrial and other organizations 	7
7. Conduct research on herbal medicine	<ul style="list-style-type: none"> • Invention of 1 technology every year by conducting herbal medicine research on 2 plant varieties 	7

5.3.3 Output Indicators and Targets

Output Indicators	Unit	Actual 2008-09	Target 2009-10	Revised Target 2009-10	Medium Term Targets		
					2010-11	2011-12	2012-13
1. Transfer/commercialisation of invented technology	Number	35	37	70	80	85	90
2. Patent of invented technology	Number	12	15	15	17	18	20
3. Fellowship for researchers	Person	30	46	46	46	46	46
4. Research opportunities at the university level	Person	50	55	55	60	65	70
5. Analysis service for Commercial/ industrial products	Number	2,971	2,726	3,000	3,150	3,630	3,800

5.3.4 Forward Budget Estimates

(Taka in Thousand)

	Budget 2009-10	Revised 2009-10	Budget 2010-11	Projection 2011-12	Projection 2012-13
Non-development	46,00,00	51,60,67	55,33,00	62,92,09	70,77,63
Development	9,83,00	14,97,00	31,57,00	12,50,74	0
Total	55,83,00	66,57,67	86,90,00	75,42,83	70,77,63

5.3.5 List of Projects, Programmes and Operational Units

Operational Unit/Project/Programme	Related Key Activity
Operational Unit	
Bangladesh Council for Scientific Industrial Research	
Approved Projects	
1. Production of Value Added Materials including Foodstuffs using Microbes and the Preservation of Microbial Diversities (2006-11)	5
2. Development of ISO 17025 Accredited Instrumentation & Calibration Service Laboratory for Chemical Measurement (2000-11)	6
3. Research for Assisting Food Processing Plants to Prepare Safe and Quality foods through Establishment of Food Safety Laboratories	5
4. Development of Materials for Tools and Bio-metallic Implant	6
Unapproved Projects:	
1. Establishment of Institute of National Analytical Research and Service, BCSIR, Dhaka	6
2. Invention of Modern Molecular Technology to Detect Virus in Potato	5
3. Strengthening of Institute for Mining, Mineralogy and Metallurgy	4

5.4 Bangladesh Computer Council

5.4.1 Recent Achievements: Monitoring and implementation of the National ICT Policy 2009 is going on. The ICT Act (Amendment) 2009 was approved. Within the purview of the Act, Controller of Certifying Authority was appointed. Trainings on ICT were given to 3031 public officials and persons from various

occupations. Computer Labs were established at 96 educational institutions in 64 districts. The only ICT incubator in the country was established by incorporating software companies to develop and export software. Under the ICT Internship Programme employment opportunities were created for 1000 interns. Initiatives were taken to establish ICT Capacity Development Company to develop expertise of the ICT professionals and convert them into skilled human resources. Construction of basic infrastructure of the High Tech Park on 231.685 acres of land at Kaliakoir Upazila of Gazipur district was already completed and the High Tech Park Authority was approved by the cabinet. Technical and consultancy services were provided to 104 public/semi-govt./autonomous organizations. Website hosting facility for various Ministries/Divisions/Departments is being centrally given by the Bangladesh Computer Council. Also, internet services are being provided for free to different ministries, divisions and ICT incubators.

5.4.2. Key Activities, Outputs related to the Activity and related Strategic Objectives

Key Activity	Outputs related to the Activity	Related Strategic Objectives
1. Formulate rules under the ICT Act and prepare a coordinated work plan for the development of ICT	<ul style="list-style-type: none"> Establishment of National Information and Communication Policy Implementing Cell Formulation of action plan to implement in the short, medium and long-term the 306 things to be done as mentioned in the National Information and Communication Technology Policy Formulate Governance Strategy and ICT Road Map and Action Plan with the help of the World Bank 	1
2. Create computer training opportunities for secondary and higher secondary level students	<ul style="list-style-type: none"> Conduct at least 25 training programmes every year Train 2600 persons every year Establish computer laboratories in 1200 Upazila level schools 	2
3. Setting standard for ICT training institutions and curricula	<ul style="list-style-type: none"> Formulation and updating ICT related programmes at the school, college and university levels 	2
4. ICT training for field level government officials	<ul style="list-style-type: none"> Implementation of field level training programmes by establishing 2 training laboratories in every Upazila 	2
5. Skill development of ICT professionals according to the need of domestic and international markets	<ul style="list-style-type: none"> Developing 15000 professionals for the domestic and international markets Creation of employment opportunities for ICT trained 	2

Key Activity	Outputs related to the Activity	Related Strategic Objectives
	interns every year	
6. Conduct training programmes on science, biotechnology and ICT related issues for improving professional skill	<ul style="list-style-type: none"> Conduct trainings on ICT related issues and development of 15,000 professionals 	3
7. Establishment of information technology training centres at the district level	<ul style="list-style-type: none"> Establishment of computer training centres at 128 educational institutions in 64 districts 	4
8. Establishment of e-community centres at the Upazila level	<ul style="list-style-type: none"> Establishment of 128 e-community centres at the Upazila level 	4
9. Increase assistance for creating employment opportunities for the ICT trained skilled manpower	<ul style="list-style-type: none"> Creation of employment opportunity for 1000 trained interns 	4
10. establishment of infrastructural facilities, such as- high tech park, ICT village, software technology park etc., to expand scope for commercial use of ICT	<ul style="list-style-type: none"> Construction of fundamental infrastructure for high tech park Setting up of ICT village at Mohakhali in Dhaka Strengthening BCC by developing its infrastructure Maintaining uninterrupted 2Mbps broadband internet speed at the ICT Incubator 	5
11. Broadband internet facility for important Ministries and public organizations	<ul style="list-style-type: none"> Bringing all Ministries, Divisions, Departments, Deputy Commissioners' Offices, and some UNO offices under a public network by 2013 	5
12. Bringing all Ministries at the Secretariat under WAN	<ul style="list-style-type: none"> Bringing all Ministries at the Secretariat under one network by 2013 	5
13. Development of e-content and e-service	<ul style="list-style-type: none"> Bringing all public offices under public network by 2013 Discharging official activities of the Ministries on-line 	4

5.4.3 Output Indicators and Targets

Output Indicators	Unit	Actual 2008-09	Target 2009-10	Revised Target 2009-10	Medium Term Targets		
					2010-11	2011-12	2012-13
1. Training on ICT	Number	4,777	2,400	2,600	2,700	2,800	3,000
2. Software development and e-service delivery	Number			50	100	200	300

Output Indicators	Unit	Actual 2008-09	Target 2009-10	Revised Target 2009-10	Medium Term Targets		
					2010-11	2011-12	2012-13
3. Achieving professional skill and employment opportunity through ICT	Number	418	1,000	1,000	1,500	3,000	4,500
4. Assistance for women empowerment	Number	637	500	500	550	550	550

5.4.4 Forward Budget Estimates

(Taka in Thousand)

	Budget 2009-10	Revised 2009-10	Budget 2010-11	Projection 2011-12	Projection 2012-13
Non-development	5,55,00	6,47,04	7,03,67	7,24,60	7,27,13
Development	31,10,00	11,14,16	19,51,00	94,41,21	79,38,93
Total	36,65,00	17,61,20	26,54,67	101,65,81	86,66,06

5.4.5 List of Projects, Programmes and Operational units

Operational Unit/Project/Programme	Related Key Activity
Operation Unit (non-development)	
1. Bangladesh Computer Council (BCC)	
Approved Programmes:	
1. Introduction of Digital Signature and Starting the Office of the Controller of Certifying Authority (CCA)	1
2. Establishment of e-community Centre at the Upazila Level	8
3. Expansion of training infrastructure of the divisional centres of the Bangladesh Computer Council	4,5
4. Setting up of computer labs in the secondary and higher secondary educational institutions at the Upazila level of Dhaka division	2
5. Setting up of computer labs in the secondary and higher secondary educational institutions at the Upazila level of Rajshahi division	2
6. Setting up of computer labs in the secondary and higher secondary educational institutions at the Upazila level of Chittagong division	2
7. Setting up of computer labs in the secondary and higher secondary educational institutions at the Upazila level of Khulna and Barisal divisions	2
8. Establishment of cyber centres at the universities and colleges	2
9. Setting up of computer labs in the secondary and higher secondary educational institutions at the Metropolitan areas of Dhaka and Sylhet divisions	2
10. Setting up of computer labs in the secondary and higher secondary educational institutions at the Metropolitan areas of Chittagong, Rajshahi, Khulna and Barisal divisions	2
11. Establishment of the infrastructure of National Data Centre	10,13

Operational Unit/Project/Programme	Related Key Activity
12. Decoration and inauguration of National Data Centre with befitting server and software	10,13
Approved Projects	
1. Basic Infrastructure for a High-Tech Park in Kaliakoir, Gazipur (1 st Phase) (2006-10)	10
2. Support for the Development of public sector use of ICT under MTEP (2006-10)	10,11,12,13
3. Establishment of Computer Training Programmes in 128 Educational Institutions across 64 Districts (2006-10)	7
Unapproved Projects	
1. Development of ICT Infra-Network for Bangladesh Government (Bangladeshgovnet)	11,12, 13
2. Establishment of IT Village in Mohakhali, Dhaka	10
3. Implementation of Computer Training Programmes at the Upazila Level Educational Institutions	6,9
4. Assisting High Tech Park Authority to set up a high tech park in Kaliakoir, Gazipur	10
5. Strengthening BCS by developing infrastructure	10
6. Assisting in setting up of IT village/STP at the divisional level	10

5.5 Bangladesh National Scientific and Technical Documentation Centre (BANSDOC)

5.5.1 Recent Achievements: Up to date information on technology are being presented to the scientists, engineers, educationists and students through various information services. Information services of the various organizations have been made modern and rich by introducing information technology and websites. BANSDOC's Cyber Centre was established to present up to date science and technology related information and to allow for the expansion of services and four Library Study Carols were created for the use of renowned scientists. Based on the demands placed on the documentation service approximately 3642 pages of journal articles published both at home and abroad were collected, which are used for research and development of science and technology at home. During the last financial year 666 local and foreign books of 51 titles were collected. As a result, the BANSDOC library now has around 20,000 local and foreign books and 425 journals, from which around two thousand readers are receiving service. Browsing, copying to CD and other cyber related facilities are available for the use of those who wish to access the services at BANSDOCs Cyber centre. The agency also maintains an up to date web site: www.bansdoc.gov.bd. In addition 267 bibliographic references were provided for the use of researchers and students at all levels.

5.5.2 Key Activities, Outputs related to the Activity and related Strategic Objectives

Key Activity	Outputs related to the Activity	Related Strategic Objectives
1. Collect, preserve and disseminate at all levels, information on science and ICT	<ul style="list-style-type: none"> 4028 pages of journal articles published at home and abroad will be collected 	6

5.5.3 Output Indicators and Targets

Output Indicators	Unit	Actual 2008-09	Target 2009-10	Revised Target 2009-10	Medium Term Targets		
					2010-11	2011-12	2012-13
1. Collection of scientific and technology related information and statistics	Number	513	2,020	2,020	2,030	2,050	2,070
2. Dissemination of information and statistics	Person	378	200	200	200	220	230

5.5.4 Forward Budget Estimates

(Taka in Thousand)

	Budget 2009-10	Revised 2009-10	Budget 2010-11	Projection 2011-12	Projection 2012-13
Non-development	1,90,00	1,60,68	2,27,01	1,93,87	2,49,04
Development	0	0	0	0	0
Total	1,90,00	1,60,68	2,27,01	1,93,87	2,49,04

5.5.5 List of Projects, Programmes and Operational Units

Operational Unit/Project/Programme	Related Key Activity
Operational Unit:	
1. Bangladesh National Scientific and Technical Documentation Centre (BANSDOC)	1

5.6 National Museum of Science and Technology (NMST)

5.6.1 Recent Achievements: Scientific theories and information are being disseminated to the public through display of more than 800 items at 6 galleries of the National Museum of Science and Technology. Subject to clear sky, observatory to watch planets and stars, including the moon, is now open two days (Saturday and Sunday) in a week in order to popularise astronomy among the general public. To expand non-formal education alongside formal education 120 quiz competitions and lectures on science were organised. To encourage students and members of science clubs to become involved in innovative work, science exhibitions, science Olympiad and innovative

competitions were arranged in 37 districts. A 'Science Park' for school and college students was been established in the National Museum of Science and Technology (NMST) premises to facilitate study of science through amusement. Quality of twenty one inventions of young scientists were developed and made ready for use.

5.6.2 Key Activities, Outputs related to the Activity and related Strategic Objectives

Key Activity	Outputs related to the Activity	Related Strategic Objectives
1. Organise Science Exhibition/Olympiad at district and national and district levels	<ul style="list-style-type: none"> Excel local technology by involving 80,000 students in innovative activities 	6
2. Encouraging and assisting scientific knowledge and innovative activities through amusement	<ul style="list-style-type: none"> Encouraging 120,000 students and general public to pursue scientific knowledge and informal science education Quality development of 60 inventions of young scientists by providing technical and financial assistance and make those available for general use 	6

5.6.3 Output Indicators and Targets

Output Indicators	Unit	Actual 2008-09	Target 2009-10	Revised Target 2009-10	Medium Term Targets		
					2010-11	2011-12	2012-13
1. Science education exhibition	Person (In thousand)	27.00	30.00	30.00	35.00	40.00	45.00
2. Participation in scientific discussions and planets & stars observations	Person (In thousand)	20.00	25.00	25.00	27.00	30.00	35.00
3. Organization of science fair and competition	Number	19	27	27	64	64	64
4. Collection of scientific items for display	Number	8	17	17	20	20	20
5. Invention and quality development of local technology	Number	15	20	20	30	30	30

5.6.4 Forward Budget Estimates

(Taka in Thousand)

	Budget 2009-10	Revised 2009-10	Budget 2010-11	Projection 2011-12	Projection 2012-13
Non-development	1,80,00	1,96,48	1,94,88	2,48,55	2,64,00
Development	6,00,00	6,00,00	10,90,00	0	0
Total	7,80,00	7,96,48	12,84,88	2,48,55	2,64,00

5.6.5 List of Projects, Programmes and Operational Units

Operational Unit/Project/Programme	Related Key Activity
Operational Unit	
1. National Museum of Science and Technology	1-2
Approved Project :	
1. Collection of Exhibits for the Galleries of National Science and Technology Museum and Encourage Young Scientists in Innovative Works	2

