

## CV of Dr.H.M. Zakir Hossain

1	Name	: Dr.H.M. Zakir Hossain
2	Father's Name	: Md. Faroz Ali Howlader
3	Mother's Name	: Meherun Nesha
4	Husband's Name(if applicable)	: Not applicable
5	Gender	: Male
6	Present Address	Chief Scientific Officer(RW) Product Development Division Bangladesh Jute Research Institute(BJRI) Manik Mia Avenue, Dhaka-1207 Mobile :01718693974
7	Permanent Address	: Village: Chengutia ,P.O.Dhandoba P.S.Agailzhara, Dist: Barishal, Bangladesh
8	Date of birth	: 01-11-1968
9	Age (as 01-01-2023)	: 54 years 2 months o days
10	Educational Qualification:	

### *Educational Qualification*

Degree/Diploma/ Certificate	Class/Grade/ Division	University./Institute / Board	Year
Junior Scholarship	Talent group (1 <sup>st</sup> in Gournadi PS)	Khulna Division	1980
S.S.C.(Science)	1 <sup>st</sup> Division	Jessore Board	1983
H.S.C.(Science)	1 <sup>st</sup> Division	Dhaka Board	1985
B.Sc in Textile Technology (4 years course)	1 <sup>st</sup> Class (9 <sup>th</sup> position)	Dhaka University	1989
Ph.D	Awarded	Jahangirnagar University	2019

### *11. Field of Specialization*

<b>Field of Specialization</b>	<p>a) Spinning, Dyeing and Finishing of jute blended fibres through R &amp;D at Jute Textile Wing,BJRI</p> <p>b) Dyeing and Finishing processing of Jute in both laboratory and pilot scale through optimization of physico- mechanical properties.</p> <p>c) Mechanical Processing of Jute and Textile fibres through working in Jute &amp; Textile spinning industries and delivering lectures to the students of Textile Engineering.</p> <p>d) Handmade paper development from jute and jute waste to be used as substitute of polyethylene bags.</p>
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## 12. Training:

### (a) In Country

Sl.N	Organization	Year	Duration		Name of Programme
			Mos.	Days	
45	BARC	2022		05	Project Monitoring and Reporting
44	BJRI	2021		01	Income Tax Return
43	BJRI	2021		01	Grievance Redress
42	BJRI	2021		01	Annual Performance Agreement(APA)
41	BJRI	2020		01	Workshop on Basic and Applied Research on Jute(BARJ)
40	BJRI	2020		01	Sustainable Development Goal
39	BJRI	2020		02	Public Procurement Procedures (Goods, Works & Services)
38	BJRI	2020		01	Right to Information
37	BJRI	2020		01	Annual Confidential Report (ACR) Writing
36	BARC	2020		05	Technical Report Writing and Editing
35	BJRI	2020		02	Service Process Simplification
34	BJRI	2020		02	Workshop on Diversified Jute Products Developed by BJRI: its Uses and Challenges
33	BJRI	2019		01	E-Filing
32	National institute of local government	2019		01	Workshop on Social Accountability Mechanism under Platforms for Dialogue (P4D) project
31	WTO cell,Ministry of Commerce	2019		01	WTO National workshop on Notification Requirement
30	CPTU, Ministry of Planning	2019		03	National e-Government Procurement (E-GP) Portal as Procure Entity(PE) user.
29	BJRI	2019		01	Sustainable Development Goal
28	WTO cell ,Ministry of Commerce	2019		01	Workshop on the WTO agreement of Agriculture and its Notification.
27	BJRI	2018		02	Project Appraisal Study
26	NATA	2018		15	Public Procurement Procedure
25	BJRI	2018		03	Agricultural Project Development
24	AATCC	2013		02	Evaluating colorfastness & physical properties of Textiles
23	BARC	2013		01	Financial management and Purchase rules.
22	BARC	2013		01	Dev. of electronic compendium on Research Findings
21	Traidcraft,UK	2012		02	Good Service Provision
20	Traidcraft,UK	2012		1½	Carbon Foot Print Calculation
19	Traidcraft,UK	2012		02	Quality Assurance
18	Traidcraft,UK	2011		04	Dyeing of jute & jute products
17	Traidcraft,UK	2011		05	Market Access
16	Traidcraft,UK	2011		05	Business coaching
15	Traidcraft,UK	2011		05	Business coaching (TOT)
14	BUET,Bangladesh & Katholieke University, Belgium	2010		03	Processing & Performance of low cost Polymer composite
13	DPDT,Bangladesh & WIPO,EC	2009		11	WIPO Intellectual Property
12	BARC Dhaka	2009		03	Financial Management
11	BARC Dhaka	2006		02	Project Development & Management
10	BARD Comilla	2006		06	Entrepreneurship Development
09	BJRI,Bagladesh	2002		09	Jute and Jute blends with Flax and

	IFTH,Frence. Funded by EEC.				Wool
08	BARD,Comilla . Funded by BARC	2001		03	Follow-up workshop on Foundation training Course
07	Bangladesh Jute Research Institute. Funded by BARC	2000		05	Library Documentation
06	BARD,Comilla . Funded by BARC	2000	03	13	Foundation Training Course for NARS Scientists
05	EADS, Dhanmondi. Funded by BARC	1999	01	15	Computer Training Course on MS office,SPSS,e-mail.
04	BEXIMCO,Dhanmondi. Funded by BEXIMCO	1995		25	Training on Communicative English
03	Ciba-Geigy,Dhanmondi Funded by Ciba-Geigy	1992	02		Training on Pretreatment, Dyeing and Finishing
02	Latif Bawany Jute Mills Ltd.. Funded by BJMC	1991	01		Yarn(Jute) Spinning
01	Meghna Textile Mills,Tongi. Funded by BTMC	1991	01		Yarn(Cotton) Spinning

## (b) Abroad :

Country	Year	Duration		Name of Programme
		Mos.	Days	
China	2019		15	Technical Setting and Operations of New Textile testing Equipment & Processing Parameter of Jute Cotton and Blended fiber on New Machineries'.

## 13. Experience:

Position	Period		
	From	To	Total Yr/Mo
Production Officer (PO),BEXIMCO,Dhaka	21-12-92	29-06-1996	3/6
Scientific Officer (SO),BJRI,Dhaka	30-06-1996	22-09-2004	8/2
Senior Scientific Officer (SSO) ,BJRI,Dhaka	23-09-2004	23-11-2015	11/2
Principal Scientific Officer(PSO) ,BJRI,Dhaka	24-11-2015	30-01-2022	6/2
Chief Scientific Officer (CSO) ,BJRI,Dhaka	31-01-2022	Continued	1/0

## 14 Publications (SO to PSO):

## Details of Publications of Dr. H M Zakir Hossain

Type	Published		Accepted for Publication		Total		G.Total
	Principal author	Co-author	Principal author	Co-author	Principal author	Co-author	
Full scientific paper	16	16	01	02	17	18	35
Short Communication	01	00	00	00	01	00	01
Popular article	06	00	01	00	07	00	07
Monograph	14	04	01	00	15	04	19
Book/Booklet	04	00	00	00	04	00	04
Bulletins	01	00	00	00	01	00	01
S. paper in seminar	10	00	00	00	10	00	10
Total	52	20	03	02	55	22	77

(i) List of all publications are given below:

**List of Publication as Principal Author:**

Sl N.	Publication Type	Publication Status	Publication Description
16	<b>Full Scientific</b> (Principal author)	<b>Published</b>	<b>Hossain, H.M.Zakir; Rahman, S.M.B; Saifullah, Md Khaled; Rashid, M.M.; Sultana, Nayer .2022..</b> Study on Enhancement of Hydrophobic Property of Handmade Paper from Raw Jute by Using MCC as External Additives. Daffodil International University journal of science and technology. Volume 17 Issue 1 January 2022 pp 10-13..
15	<b>Full Scientific</b> (International) (Principal author)	<b>Published</b>	<b>Hossain,H.M.Zakir;Asaduzzaman,M;Azad,M;Chowdhury,N;Uddin,MK and Hussain,M.Z.2010.</b> Study on Hydrophobic Property of Handmade Paper Treated by Wax. Journal of Innovation & Development Strategy (JIDS). Canada .Vol-4, Issue; 1 August 2010 P 1-4.
14	<b>Full Scientific</b> (Principal author)	Do	<b>Hossain, H.M. Zakir; Rahman,S.M .B; Saifullah ,Khaled; Rashid, M.M.</b> Samina Jafrin and Uddin ,Md.Kamal.2009. Study on the Directional Strength of Handmade Jute Paper Treated by Various Additives.. Bangladesh Journal of Jute and Fibre Research.;2008, Vol-28(2) P 61-69
13	<b>Full Scientific</b> (Principal author)	Do	<b>Hossain, H.M. Zakir; Rahman,S.M .B; Saifullah ,Khaled; Rashid, M.M and Uddin ,Md.Kamal.2008.</b> Effect of Reinforcement on Hydrophobic Property of Handmade Jute Paper . Bangladesh Journal of Jute and Fibre Research.;2008, Vol-28(1) P 1-5
12	<b>Full Scientific</b> (Principal author)	Do	<b>Hossain, H.M. Zakir; Uddin ,Md.Kamal; Saifullah ,Khaled; Rashid, M.M.and M M Mollah .2010.</b> Hydrophobic Property of Handmade Paper Treated by sizing Material ‘Rosin’ Daffodil International University journal of science and technology. Volume 5 Issue 1 January 2010 pp 48-52.
11	<b>Full Scientific</b> (Principal author)	Do	<b>Hossain, H.M. Zakir; Rahman,S.M .B; Saifullah ,Khaled; Rashid, M.M.and Uddin ,Md.Kamal.2008.</b> Study on Strength Behaviour of Handmade Paper Treated by wax emulsion. Bangladesh Textile Journal.March/April 2009 Year : 2 Issue : 02 pp 25-28
10	<b>Full Scientific</b> (Principal author)	Do	<b>Hossain, H.M. Zakir; Rahman,S.M .B; Saifullah ,Khaled; Rashid, M.M. and Uddin ,Md.Kamal.2008.</b> Effect of Reinforcement on Strength Behaviour of Handmade Jute Paper .Daffodil International University journal of science and technology. Volume 4 Issue 1 January 2009 p45-49
09	<b>Full Scientific</b> (Principal author)	Do	<b>Hossain, H.M. Zakir; Saifullah,Khaled; Rashid,MM; Uddin,Md.Moslem; Jafrin, Samina and,Uddin, Moslem,Uddin,Md. Kamal.2008.</b> Study on hydrophobic property and strength behaviour of handmade jute paper treated by various internal and external additives. Journal of Textile Engineers and Technologists (ITET), Bangladesh. Volume December 2008. P-73
08	<b>Full Scientific</b> (Principal author)	Do	<b>Hossain, H.M. Zakir;Mamaunur Rashid, Mohammad and Moslem uddin, Md..2008.</b> Effect of ANBC ring cut ring cops on hard waste of finishing section of spinning mill. Journal of Textile Engineers and Technologists (ITET), Bangladesh. Volume 10 December 2008 P-18
07	<b>Full Scientific</b> (Principal author)	Do	<b>Hossain, H.M. Zakir ;Rahman ,Md.Siddiqur; Matin ,Nilufar; Abdullah,ABM.2006.</b> Application of Microcrystalline Cellulose(MCC) to increase hydrophobic properties of handmade paper produced from jute waste. Bangladesh Journal of Jute and Fibre Research.;2006, Vol-26 (1-2) P 12-17
06	<b>Full Scientific</b> (Principal author)	Do	<b>Hossain, H.M. Zakir ;Rahman ,Md.Siddiqur; Matin ,Nilufar; Abdullah,ABM.2004.</b> Modification of Handmade Paper (produced from jute) by Carboxy Methyl Cellulose (CMC) in mixture with MCC suspension for its increasing hydrophobic property. Bangladesh Journal of Jute and Fibre Research.;2006, Vol-26 (1-2) P 18-24
05	<b>Full Scientific</b> (Principal author)	Do	<b>Hossain, H.M. Zakir . 2000 .</b> Effect of Intervals of Pneumafil Waste Collection (PWC) on End Breakage in Ring Spinning. Journal of Textile Engineers & Technologist (ITET), Bangladesh Vol-8, P 75-78
04	<b>Full Scientific</b> (Principal author)	Do	<b>Hossain, H.M. Zakir ; Sutrahar, N.C.1999.</b> Comparative study on the properties of Ring and Rotor Spun yarn. Journal of Textile Engineers & Technologist (ITET), Bangladesh ; 1999,vol-7,P 8-12
03	<b>Full Scientific</b> (Principal author)	Do	<b>Hossain, H.M. Zakir; Chowdhury, Moazzem Hossain..1997.</b> Potentiality of Jute carpet as a global floor covering. Journal of Engineers & Technologist (ITET), Bangladesh ; 1997,Vol-6, P 23-25

02	<b>Full Scientific</b> (Principal author)	Do	<b>Hossain, H.M. Zakir</b> ; Matin,Nilufar;lutfar,latifa Binte ;Chowdhury,Moazzem Hossain;Rahman ,Md.Siddiqur.2002.Studies on physico-mechanical properties and spinnability of Dhabdhabey Pat compared to CVL-1. Bangladesh Journal of Jute and Fibre Research.;1998-99, Vol-23(1&2) P 47-52
01	<b>Full Scientific</b> (Principal author)	<b>Accepted for publication</b>	<b>Hossain, H.M. Zakir</b> and Sarker, Zahid.2021. Study on Strength Behaviour of Handmade Paper Treated by Sizing Material ‘Rosin’. Accepted for publication in Bangladesh Journal of Jute and Fibre Research of incoming issue.
01	Short Communication (Principal author)	<b>Published</b>	<b>Hossain, H.M. Zakir</b> ; Rahman,S.M .B; Saifullah ,Khaled; Rashid, M.M. and Uddin ,Md.Kamal.2008. Study on Strength Behaviour of Handmade Paper Treated by MCC as External Additives South East University Journal of science and Engineering .Volume 4 No 4 December2009.p 87-93
07	<b>Popular Article</b> (Principal author)	<b>Published</b>	<b>Hossain ,H.M.Zakir</b> . 2020. Memorising Liberation war : Blood stream still alive. 100 successful life stories 2020. Research publication of Textile Museum.p 316-318
06	Do (Principal author)	Do	<b>Hossain ,H.M.Zakir</b> . 2020. Vision:Textile Research Council. 100 successful life stories 2020. Research publication of Textile Museum. p 175-178.
05	Do (Principal author)	Do	<b>Hossain ,H.M.Zakir</b> . 2020. Textile Education and Research movement . 100 successful life stories 2020. Research publication of Textile Museum.p 112-115
04	Do (Principal author)	Do	<b>Hossain ,H.M.Zakir</b> . 2004 .Polyethylene: A Monster to Environment.BJRI newsletter "Jute and Jute Fabric"; Vol-30 No-4, April-June 2004.
03	Do (Principal author)	Do	<b>Hossain,H.M.Zakir</b> . 2002. The Future Horion of Jute. Monthly prodyut (A periodical of Bangladesh Development council).Vol-10 No-11, July-2002.P 9-10
02	Do (Principal author)	Do	<b>Hossain,H.M.Zakir</b> .2002 .Bright future of jute in pulp and Paper industry. BJRI newsletter "Jute and Jute Fabric" ;Vol-27 No-1, Jan-March 2002.
01	<b>Popular Article</b> (Principal author)	<b>Accepted for publication</b>	<b>Hossain ,H.M.Zakir</b> . 2021. China at a Glance. 100 successful life stories 2021. Research publication of Textile Museum.
17	<b>Monograph</b> (Principal author)	<b>Published</b>	<b>Hossain,H.M.Zakir</b> Molla,Jannatul Baki.2022.Jute,Cotton and Viscose Blending : A New Prospect. BJRI newsletter “JUTE AND JUTE FABRICS” Vol-45-45 No.1-6 June 2022.p-23-26
16	Do (Principal author)	Do	<b>Hossain ,H.M.Zakir</b> ;Kabir,MM,Sultana,Nayer and Shahinor,Sweety.2007. Potentiality of jute in pulp and paper Industry of Bangladesh. BJRI newsletter “JUTE AND JUTE FABRICS” Vol-37 No-1 January-March 2010.p-5
15	Do (Principal author)	Do	<b>Hoassain,H.M.Zakir</b> and Saifullah,Khaled.2007.Potential application of jute in technical textile . BJRI newsletter “JUTE AND JUTE FABRICS” Vol-36No-1 January-March 2009.p-5
14	Do (Principal author)	Do	<b>Hoassain,H.M.Zakir</b> and Maniruzzaman,M..2007.Jute technical textile :Present scenerio . BJRI newsletter “JUTE AND JUTE FABRICS” Vol-35 No-4 October-December 2008.p-6
13	Do (Principal author)	Do	<b>Hoassain,H.M.Zakir</b> and Maniruzzaman,M..2007. High performance Jute technical textile: Recent Development. BJRI newsletter “JUTE AND JUTE FABRICS” Vol-35 No3-July-September 2008.p-5
12	Do (Principal author)	Do	<b>Hossain, H.M. Zakir</b> .2007. Construction of jute composite for automobile. BJRI newsletter “JUTE AND JUTE FABRICS” Vol-34 No-1 January-March 2007
11	Do (Principal author)	Do	<b>Hossain ,H.M.Zakir</b> & Khan,MA.2007. Technological research of jute: Success and Potential. Weekly Britter Bairy.29 September ,2008.P-16
10	Do (Principal author)	Do	<b>Hossain ,H.M.Zakir</b> ;Saifullah ,Khaled.2007. Role of jute in developing environment. Weekly Britter Bairy.26,November 2007 P-16
09	Do (Principal author)	Do	<b>Hossain ,H.M.Zakir</b> :Uddin MK;Azad,MAK.2007.Success of pat- wool knitting technology and its future potentiality. Weekly Britter Bairy.30,July 2007 P-18
08	Do (Principal author)	Do	<b>Hossain ,H.M.Zakir</b> . 2007. Use of jute in vehicle industry. BJRI newsletter "Jute and Jute Fabric";Vol-30 No-4, April-June 2007.
07	Do (Principal author)	Do	<b>Hossain ,H.M.Zakir</b> ;Saifullah ,Khaled.2007. Jute Composite:Production process and its use in automobile .Weekly Britter Bairy.23,April 2007 P-18
06	Do	Do	<b>Hossain ,H.M.Zakir</b> ;Saifullah ,Khaled.2007. Car from golden

	(Principal author)		fibre jute is coming .Weekly Britter Baiiry.26,March 2007 P-14
05	Do (Principal author)	Do	<b>Hossain ,H.M.Zakir &amp; Khan,MA.</b> 2007. Unknown Characteristics of jute .Weekly Britter Baiiry.21,February 2007.P16-17
04	Do (Principal author)	Do	<b>Hossain ,H.M.Zakir.</b> 2002. The Suffering Profile of Polyethylene. Monthly prodyut (A periodical of Bangladesh Development council).Vol-11 No-1, September 2002.P21-22
03	Do (Principal author)	Do	<b>Hossain, H.M. Zakir.</b> 1992. Textile Industry of Asia: A Commentry. Monthly prodyut (A periodical of Bangladesh Development council) p-9
02	<b>Do</b> (Principal author)	Do	<b>Hossain, H.M. Zakir.</b> 1990. Textile Engineering & Technology Education in Bangladesh: Present and future. “Unnayan Bitarka”, Journal of Bangladesh Development Council .No-3 vol.- 10, P 38 - 60
01	Do (Principal author)	<b>Accepted for publication</b>	<b>Hossain, H.M. Zakir:</b> Billah, Mohtasim.2002 .Study on the Labour Cost in the textile industries of the world. Accepted for publication in Monthly prodyut (A periodical of Bangladesh Development council).
01	<b>Book</b> (Principal author)	<b>Published</b>	<b>Hossain, H.M.Zakir.</b> 1999. Textile Industry & Education
02	Do (Principal author)	<b>Do</b>	<b>Hossain, H.M.Zakir.</b> 1998. Textile Education in Bangladesh
03	Do (Principal author)	<b>In Press</b>	<b>Hossain, H.M.Zakir.</b> 2002. A Guide on Modern Spinning Technology for long Staple Fibres. <i>Volume one</i> (in press).
04	Do (Principal author)	<b>In Press</b>	<b>Hossain, H.M.Zakir.</b> 2002. A Guide on Modern Spinning Technology for long Staple Fibres. <i>Volume two</i> (in press).
01	Bulletin (Booklet) (Principal author)	<b>Published</b>	<b>Hossain ,H.M.Zakir .</b> 2001.Uster Ring Data : A Revolution in spinningig .

#### List of Publication as Co- Author:

Sl N.	Publication Type	Publication Status	Publication Description
19	<b>Full Scientific</b> (International) (Co-author)	<b>Published</b>	Rashid MM, Rahman MO, Khan MH, Himel MFA, <b>Hossain HMZ</b> and Khatun M .2023.Studies on Mechanical Properties of Jute Sliver Reinforced Unsaturated Polyester Resin (UPE) Composite. Environ Sci Arch 2(1):65-74.
18	<b>Full Scientific</b> (International) (Co-author)	<b>Published</b>	Md Redwanul Islam , Dr Hosne Ara Begum , Sharif Ahmed, Dr <b>HM Zakir Hossain</b> and Fahmida-E-Karim. 2022 .Design and Fabrication of an Instrument for Splitted Jute Fiber Length Measurement. Research & Development in Material science. Volume 18 Issue 2 ,December 2022 pp 2059-2064.
17	<b>Full Scientific</b> (International) (Co-author)	<b>Published</b>	Mahbubul Alam, <b>HM Zakir Hossain</b> , Zakaria Ahmed and Mahmuda Khatun.2022..Effect of Process Variables on Chemical Treatment of Jute Fibers. ENVIRONMENTAL SCIENCE ARCHIVES. Volume 1 Issue 2 ,September 2022 pp 74-80..
16	<b>Full Scientific</b> (International) (Co-author)	<b>Published</b>	Uddin,MK; <b>Hossain,H.M.Zakir</b> ;Sarker Zahid ,Jahan,Nusrat and Sultana, Nayer. Effective Cross-linking dyeing method for jute fabric with reactive dyes. 2019. European Scientific Journal. .Vol -15 No 27 (201 ESJ September Edition P 125-135
15	<b>Full Scientific</b> (Co-author)	<b>Published</b>	Uddin,MK;Molla,ME;Rahman,SMB and <b>Hossain,H.M.Zakir.</b> Infrared Study on Crosslinked Dyed Jute Fabric. 2013. Journal of Textile Engineering. .Vol TE-01, Issue ;01 December 2013 P 71-76
14	<b>Full Scientific</b> (Co-author)	<b>Published</b>	Uddin,MM; <b>Hossain,H.M.Zakir</b> ;Chowdhury,Nazmina;Arju,Sharfun Nahar,Shahinor sweety and Kaiser, Abdullah.2013.Effect of Chemical Treatment on the Physical Properties of Different Portion of Jute . Journal of Textile Engineering. .Vol TE-01, Issue; 01 December 2013 P 67-70.
13	<b>Full Scientific</b> (Co-author)	Do	Siddique,MAB;Jalil,MA;Mahahuhuzzaman,AKM and; <b>Hossain, H.M. Zakir</b> .2009.Effect of Dyeing parameters on dyeing of knitted fabric with Remazol Dye.Bangladesh Journal of Jute and Fibre Research.;2009, Vol- 29 (1-2)P 59-62
12	<b>Full Scientific</b> (Co-author)	Do	Rashid,MMR; <b>Hossain, H.M. Zakir</b> ; Uddin,MM; Jubayer,MMU; and Hasan,S. 2009. Study on effect of harvesting age on physico-mechanical properties of white jute Breeding line BJC-718.Bangladesh Journal of Jute and Fibre Research.;2009, Vol-29 (1-2) P25-29
11	<b>Full Scientific</b> (Co-author)	Do	Jalil,MA ;Siddique,MAB;Shahid,MA; <b>Hossain, H.M. Zakir &amp; Mahbubuzzaman,AKM .</b> 2008.Comparative study on the spinnability of

			Bangladeshi cotton and Pakistani cotton. Bangladesh Journal of Jute and Fibre Research.;2008, Vol-28(2) P 55-60
10	<b>Full Scientific</b> (Co-author)	Do	Moslem Uddin,Md.; <b>Hossain, H.M. Zakir</b> ;Mahbubuzzaman,AKM;Salam Kkan,MA and Saifullah, Khaled .2008. Selection of product mix of a textile spinning mill by linear programming.. Journal of Textile Engineers and Technologists (ITET), Bangladesh.Volume 10 December 2008 P-21
09	<b>Full Scientific</b> (Co-author)	Do	Moslem Uddin,Md.;Anwarul Haque,AFM;Hasin,Ahsan Akhter; <b>Hossain, H.M. Zakir</b> ;Mahbubuzzaman,AKM .2008. Identification of the critical factors of yarn breakage in ring spinning by desin of experiment.Journal of Textile Engineers andTechnologists (ITET), Bangladesh.Volume 10 December 2008 P-66
08	<b>Full Scientific</b> (Co-author)	Do	Azad, MAK;Jafrin,Samina;Uddin,Kamal and <b>Hosain,H.M.Zakir</b> .2008. Preparation of rot proof nursury pot by using different types of chemicals and their comparative study.Journal of Textile Engineers and Technologists (ITET), Bangladesh.Volume 10 December 2008 P-18
07	<b>Full Scientific</b> (Co-author)	Do	Shahidullah,Md;Islam ,Ahmed Zakaria,Akhter Foroza , Halim A and <b>Hossain, H.M. Zakir</b> ; 2008. Use of Cassava ( <i>Manihot Esculanta</i> ) as Natural and Indigenous Thickener for Preparation of Textile Printing Paste. Bangladesh Journal of Progressive Science and Technology.Vo;-6 No-2 July 2008 P 507-510
06	<b>Full Scientific</b> (Co-author)	Do	Uddin,MK;Molla,ME;Rahman,SMB; <b>Hossain, H.M. Zakir</b> .2008. Optimization of crosslinking dyeing method for jute fabric with reactive dyes. Daffodil InternationalL University journal of science and technology.Volume 3 Issue 2 July 2008 pp 24-31
05	<b>Full Scientific</b> (Co-author)	Do	Jafrin , Shamina;Uddin,MK;Dilruba,FA;Sultana,Nayer and <b>Hossain, H.M. Zakir</b> .2008. Rot-Proofing of Jute Fabrics by Using Copper Ammonium Carbonate Solution. Daffodil InternationalL University journal of science and technology.Volume 3 Issue 2 July 2008 pp 51-54
04	<b>Full Scientific</b> (International) (Co-author)	Do	Uddin,MK;Molla,ME;Rahman,SMB ;Azad,MAK; <b>Hossain, H.M. Zakir</b> ; Jubayer,MMU.2007.Physical properties of jute dyed fabric crosslinked with No-DMDHEU.2007.Journal of Biological Science .Vol-7,No-1(Pakistan) pp 68-70
03	<b>Full Scientific</b> (Co-author)	Do	Anwar,Md Masroor;Bhuiyan,MAH; <b>Hossain, H.M. Zakir</b> and Mollah.2005. Studies on the dielectric constant of jute fibre by impedance analyzer. Bangladesh Journal of Jute and Fibre Research.;2006, Vol-26 (1-2) P 51-57
02	<b>Full Scientific</b> (Co-author)	<b>Accepted for Publication</b>	Mohammad Mamunur Rashid, Md.Obaidur Rahman, Mubarak Ahmad Khan, Md Fakrul Abedin Himel and <b>H.M.Zakir Hossain</b> .2023.Studies on Mechanical Properties of Jute Fabric Reinforced Unsaturated Polyester Resin (Upe) Composite. Accepted for publication in incoming issue of Bangladesh Textile Journal.
01	<b>Full Scientific</b> (Co-author)	Do	Mohammad Mamunur Rashid, Md.Obaidur Rahman, Mubarak Ahmad Khan, Md Fakrul Abedin Himel. and <b>H.M.Zakir Hossain</b> .2023. Effect of Water Absorption on Mechanical Properties of Jute Fabric Reinforced Unsaturated Polyester Resin (Upe) Composite.Accepted for publication in incoming issue of Bangladesh Textile Journal.
01	<b>Monograph</b> (Co-author)	Do <b>Published</b>	Abdullah,ABM; <b>Hoassain,H.M.Zakir</b> .1997.The bank for guaranted quality fibres.The journal of Textile Engineers and Technologists,Bangladesh .Vol-6 P-37
02	Do (Co-author)	Do	Shahidullah, Md. <b>Hossain ,H.M.Zakir</b> ;Kawser, Abdullah .2009. Design and Printing on jute fabrics .Weekly Britter Bairy.28,December 2009 P-23

### Key-note Paper Presented in Seminar/Symposium/workshop by Dr.H.M.Zakir Hossain

1	Presented the Key-note of the seminar entitled "Studies on Physico-Mechanical, Comfort and Allied Properties of Dyed Jute Fabrics" which was held on 26.02.2020 at Bangladesh Jute Research Institute .
2	Presented the Key-note of the seminar entitled " Studies on Physico-Mechanical, Comfort and Allied Properties of Dyed Jute Fabrics " Final Part which was held on 08.04.2018 as seminar for PhD at Jahangirnagar University .
3	Presented the Key-note of the seminar entitled " Studies on Physico-Mechanical, Comfort and Allied Properties of Dyed Jute Fabrics " Part-2 which was held on 01.12.2016 as seminar for PhD at Jahangirnagar University (JU)
4	Presented the Key-note of the seminar entitled " Studies on Physico-Mechanical, Comfort and Allied Properties of Dyed Jute Fabrics " Part-I which was held on 29.02.2012 as seminar for PhD at JU
5	Presented the Key-note of the seminar entitled " Comperative Study on the Properties of Ring and Rotor Spun Yarn " which was organized by BJRI on June 20,2002.
6	Presented the Key-note of the seminar entitled " Environment Pollution : Time to Claim Compensation for Bangladesh" which was organized by BJRI on June 9, 2002.
7	Presented the key-note paper entitled "Textile Engg and Technology Education: Present and Future" in a seminar held on May 04, 1991 which was addressed among others by Prof. Moniruzzaman Mia (Ex. - V.C., DU), Dr. Akhteruzzaman (DU), Dr. Mizanur Rahman (BUET), Dr. A.B.M. Abdullah (BJRI), Dr. Mostafizur Rahman (Textile Engg. College)
8	Presented paper on field study of Primary Education Status of the village "West Coatbari" near BARD which was organized by BARD, Commilla on September, 2000
9	Presented paper on the review of the book "Environmen: The Role of Political Parties" which was organized by BARD, Commilla on October, 2000.
10	Presented Key-note of the seminar entitled "Problem in Textile Education: Autonomy is the solution" which was organized by Progati Pat Chakra, College of Textile Engineering ,Tejgaon Dhaka-1208 in 1991.

#### Publication (SO to PSO):

##### (ii) Summary of publications:

(a)	Scientific journals	No. of publication
	(i) Full paper	
	(a) Paper published in the Reputed International Journal	6
	Principal author	1
	Co-author	5
	(b) Other International & National Journal	29
	Principal author	15
	Co-author	14
	(ii) Short Communication	1
	Principal author	1
	Co-author	0
(b)	Books/ Monograph/Bulletins	
	(i) Books	4
	Principal author	4
	Co-author	0
	(ii) Monographs	19
	Principal author	18
	Co-author	1
	(iii) Bulletins	1
	Principal author	1
	Co-author	0
(c)	Seminar/ Workshop/ Symposium Proceedings	10
	(i) International/National	
	Principal author	10
	Co-author	0



### 15. Research achievement (as PSO):

- (i) No. of technology developed: 10 + 8 = 18 (Annexure-I)  
(ii) No. of research programme (Annexure-II)  
a) Developed : 28  
b) Supervised : 07  
c) Executed : 14

### (16) Outstanding achievement (as SO to PSO)

i	<p><b>Award Received:</b></p> <ol style="list-style-type: none"> <li>Honored as best scientist of 2022 and <b>National Jute Award 2022</b> was given by Ministry Textile and Jute, Government of Peoples Republic of Bangladesh on the eve of National Jute Day, March 6, 2022.</li> <li>Got <b>BARC Chairman's Award</b> for outstanding performance in the fourth Foundation Training sponsored by BARC and held in BARD, Comilla in 2000</li> <li>Awarded '<b>Special Increment</b>' in recognition of contentment of BJRI authority and efficiency in 2019.</li> <li><b>Ph.D Scholarship awarded</b> from BARC, Dhaka received for perusing PhD in Jahangirnagar University in 2014.</li> <li><b>Junior Scholarship awarded</b> in Talent group and stood 1<sup>st</sup> in Gournadi PS (now Gournadi and Agaiulzhara upazilla) in 1980 .</li> </ol>
ii	<p><b>Patent Registration :</b></p> <ol style="list-style-type: none"> <li>A patent has <b>been</b> registered for protection of the invention “ A process for the production of blended denim from jute cotton blended fibres” by Department of Patent ,Design and Trademarks, Government of the People’s Republic of Bangladesh .Patent No. 1005089 of 2009, Issue No.149/09/5143 Date : 29/12/12.</li> <li>A patent application has been registered for protection of the invention “A process of salt free dyeing for plain jute fabric known as Carpet Backing Cloth (CBC)” by Department of Patent, Design and Trademarks, Government of the People’s Republic of Bangladesh .Patent Appl.No. 111/2019/652 Date: 24/02/2020.</li> <li>A patent application has been registered for protection of the invention “A process for the producing high strength and hydrophobic Handmade paper (HMP) from jute.” by Department of Patent, Design and Trademarks, Government of the People’s Republic of Bangladesh. Patent Appl.No. 112/2019/1240 Date: 08/06/2020.</li> </ol>
iii	<p><b>Supervision of thesis :</b></p> <ol style="list-style-type: none"> <li>Supervising PhD thesis entitled “Studies on Physio-Mechanical, Comfort and Allied Properties of Cotton Spandex Polyester Blended Single Jersey Knit Fabrics” of Kazi Md.Elias Roll No. 37 Registration no.3318, Session: 2021-22 in Physics Department of Jahangirnagar University.</li> <li>Supervised and examined MS thesis entitled “Design and Fabrication of an Instrument for Splitted Jute Fiber Length Measurement.” of Md.Redwanul Islam, Student ID No. 2018-2-1-1009, Session:2017-18 of Department Yarn Engineering, Bangladesh University of Textiles (BUTEX) as external member.</li> <li>Supervised and examined MS thesis entitled “ Modification of Drafting Zone of Jute Flyer Spinning Frame to Improve the Jute Yarn Quality” of Md. Khalilur Rahman, Student ID No. 2013-2-1-003, Session:2012-2013 of Department Yarn Engineering, Bangladesh University of Textiles (BUTEX) as external member.</li> <li>Supervised MS research entitled “Jute Geo-Textile effectiveness in Bangladesh” conducted at Bangladesh University of Dhaka (DUET) under guidance of Abdullah Kafi, Lecturer, DUET.</li> </ol>
iv	<p><b>Editor to Journal and Newsletter :</b></p> <ol style="list-style-type: none"> <li>Has been working as Technical Editor of BJRI Journal and Newsletter Editorial Board and worked as member of BJRI Newsletter Advisory Committee for 4 years earlier.</li> <li>Contributing as a regular member of editorial board for Annual Programme and Annual Report of BJRI Technology Wing.</li> </ol>

v	<p><b>Teacher and Examiner to University :</b></p> <ol style="list-style-type: none"> <li>Contributed as part-time teacher and examiner of Bangladesh University of Textiles (BUTEX) (former college of Textile Engg. &amp; Technology under University of Dhaka), as part of education assistance given to BUTEX by BJRI.</li> <li>Contributed as examiner of Maulana Bhasani Science and Technology University, Tangail .</li> </ol>
vi	<p><b>Policy Making :</b></p> <ol style="list-style-type: none"> <li>Formulated <b>Research Vision-2041</b> of Jute-Textile Wing, BJRI</li> <li>Played a key role in the formulation of Dynamic <b>HRD Plan</b> for Jute Textile Wing upto 2041</li> <li>Played an important role in the proposed <b>manpower restructuring</b> with a view to strengthening research and development activities of BJRI.</li> <li>Providing active cooperation in formulating recommendations in favor of Jute Textile Wing by the External Expert Panel (<b>EEP</b>) formed with the aim of improving the quality of research of ARIs.</li> <li>Worked in preparing <b>BARC promotion and recruitment criteria</b> for NARS Institutes to be imposed by BARC.</li> <li>Played major role in formulating Bangladesh Jute Packaging Act 2010.</li> <li>Contributed in preparing “<b>The Road Map of Jute</b>” formulated by International Jute study group.</li> <li>Contributed in preparing “<b>Textile Policy</b>” of Bangladesh by making comments of Textile Policy Prepared by Ministry of Textiles and Jute.</li> </ol>
vii	<p><b>Preparation of Project/Status paper :</b></p> <ol style="list-style-type: none"> <li>Playing a key role in the preparation of the <b>DPP</b> for a project worth about Tk 75.00 crores titled “Innovation of eco-friendly home textile technology with jute cotton blend” in the light of SDGs.</li> <li>Prepared <b>status paper</b> on “Jute-Wool Blending” for the project to be taken jointly by BJRI &amp; Australia.</li> <li>Prepared <b>status paper</b> on “Potentiality of jute in pulp and paper industry of Bangladesh” for the project to be taken jointly by BJRI &amp; China.</li> <li>Prepared jointly a project entitled” Commercial Application of Effective Simultaneous Dyeing and Finishing Method for Jute, Jute-Cotton Union and Jute-Cotton Blended Fabrics with Reactive Dyes” which was submitted to International Jute Study Group, Dhaka.</li> <li>Prepared jointly a project entitled” Development and Modernization of Laboratories of BJRI technology wing” which was submitted to Ministry of Agriculture, Bangladesh.</li> </ol>
viii	<p><b>Focal Point for Parliamentary Standing Committee:</b> Working as Focal Point of BJRI regarding Agriculture related Standing Committee of Bangladesh National Parliament.</p>
ix	<p><b>Member of Vital Committee: Enhanced</b> research activities of BJRI through active participation as member in different committees like BJRI man-power restructuring Committee, Writing/publishing articles in different media with a view to promoting extension of BJRI technologies. Preparing handbook of BJRI developed technologies, Annual Performance Agreement(APA) monitoring committee, Official Cost Estimate Committee(OCEC), Citizen Charter Monitoring Committee (CCMC), Joint Working group (JWG) of BJRI &amp; BCSIR, Cell for Implementing Prime Minister’s commitments and Instructions, pension Committee ,Member of sectional committee of BSTI, Bio-Data Evaluation Committee for SSO recruitment, etc.</p>
x	<p>Enhanced research activities of BJRI through spending huge unused money by <b>evaluating tenders within shortest possible time</b> as TEC member.</p>
xi	<p>Worked as member of <b>Quality Circle</b> in Technology Wing of BJRI.</p>
xii	<p>Worked as member of the committee for preparing specification of <b>laboratory Equipments</b> to be purchased.</p>
xiii	<p><b>Role in Development of Jute Textile Wing, BJRI (Former JTPDC) :</b></p> <ol style="list-style-type: none"> <li>Played vital role in selecting process line for Blow room suitable jute and its blend after visiting and analyzing blow room lines of 12 textile mills of Bangladesh in 2003.</li> <li>Worked as key person in preparing tender document for purchasing Blow Room machine of JTPDC in 2003.</li> <li>Worked as one of the members of the Technical committee for making suggestion for procuring Blow room machine for Jute and Textile Product development centre (JTPDC) in 2003.</li> <li>Worked as one of the members of the Technical committee for making suggestion for procuring Rotor spinning machine for Jute and Textile Product development centre (JTPDC) in 2002.</li> <li>Contributed in the meeting of Tender Evaluation Committee of “Supply, Installation and Erection of a new</li> </ol>

	<p>Rotor Spinning Machine for JTPDC”.</p> <p>(f) Contributed as the member of the committee to assist “Post-Shipment inspection” of the imported Blow room machine in 2005.</p> <p>(g) Worked hard for collecting cotton from Gazipur farm of Cotton Development Board and jute from Jute Goods Association.</p> <p>(h) Prepared official Estimated Cost of various machine repairing and servicing.</p>
xiv	Worked as a member of the committee for preparing Annual Technical Programme 2006-2007 & 2007-2008 and Annual Technical Report 2005-2006 & 2006-2007, 2008-14, 2018-2022 of Technology Wing, Annual Technical Programme 2020-21 and Annual Technical Report 2021-22, Research Highlights 2020-21, Research Achievement 2020-21 of Jute Textile Wing .
xv	Worked as a member of the committee for preparing report on <b>Instron testing</b> machine of Textile Physics Division
xvi	<b>Resource Speaker in Training :</b> Contributed as resource speaker in more than ten training programs.
xvii	Worked as <b>Rapporteur</b> of different seminar, workshop and meetings organized by BJRI.
xviii	Participated in different exhibitions on behalf of BJRI to popularize the jute diversified products.
xix	Performed extra duty for manufacturing jute bags for supplying in the “Grand Convention of Agriculture Workers” which was attended by Prime Minister of Bangladesh at BARI, Gazipur.
xx	Worked as convener and member of a lot of purchase committee of BJRI
xxi	Performed all duties accordingly assigned by CSO, Director & DG
xxii	Working as <b>member of Design Review Committee</b> under the chairmanship of Renowned Water Resource Specialist Prof. Dr. Ainun Nishat for Jute Geo-Textile to be used in Pilot River Bank Protection Work applying new technique by Manob Hitoishi Sangstha under the assistance of Bangladesh Water Development Board.
xxiii	<b>Worked as CSO (RW):</b> worked as CSO (Routine Work) of Pilot Plant and Processing Division from 30.04.2014 to 30.05.2014.
xxiv	<b>Associated as member with the following Professional bodies, social network and scientific forum:</b>
	(a) Bangladesh Jute Research Scientists' Association
	(b) Institute of Textile Engineers and Technologists(ITET), Bangladesh
	(c).Bangladesh Association for Scientist & Scientific Professions
	(d) Bangladesh Association for Advancement of Science
	(e) The Institution of Engineers, Bangladesh(IEB)
	(f) The Science Direct (Netherlands)
	(g) American Association of Textile Dyers and Colorist(AATCC)
xxv	<b>Contribution to Liberation War:</b> Sacrificed some drops of blood owing to injury in leg caused by bullet of Pakistani occupation army on 15 may, 1971 during liberation war of Bangladesh..

Signature of Applicant:

February 21, 2023

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## Annexure-I

## 15. Research achievement as PSO

## 15(i) Technology Developed

SL No	Name of technology developed	Present status of Adoption	Remarks
01	Development of denim fabric by blending jute with cotton in rotor spinning system	The technology developed in JTPDC with the collaboration of private Textile mills and now ready to be transferred.	I worked as <b>Co-investigator</b> in this research project
02	Chemical modification of jute fabric with various Dyes by Cross-Linking Technique	The technology ready to be transferred	I worked as <b>Co-investigator</b> in this research project
03	Development of hydrophobic handmade paper from jute to be used as substitute of polyethylene bags.	MOU signed between BJRI MCC, an American NGO to develop and commercialize the product. Ten scientific papers on handmade paper have been published in different journals.	I worked as <b>Principal Investigator</b> in this research project
04	Preparation of rot proof nursery sheet/pot by using different types of chemicals and their comparative study.	This technology already transferred to BJMC, Nawapara Jute Mills Ltd., Golden Fibre and JDPC through MOU.	I worked as <b>Co-investigator</b> in this research project
05	Development of fuel cake from jute waste to be used as an alternate source of energy.	Standardization and adaptation processes of fuel cake are going on.	I worked as <b>Principal Investigator</b> in this research project
06	Saltfree dyeing technology of jute.	Applied for patent registration and 15 scientific papers on saltfree dyeing of jute is under publication process.	I worked as <b>Principal Investigator</b> in this research project
07	Dyeing of jute fabric dyeing Jet machine instead of Jigger machine with a view to promoting productivity.	Standardization and adaptation processes of jute fabric dyeing in jet dyeing machine are going on.	I worked as <b>Principal Investigator</b> in this research project
08	Upgrading the physical properties of different bags made of dyed jute fabrics	Pilot scale trials for developing fabric for bags are under processing.	I worked as <b>Principal Investigator</b> in this research project
09	Development of comfort properties of sofa cover, cushion cover, bed sheet, bed cover, kitchen and factory apron.	Pilot scale trials for developing fabric for sofa cover, cushion cover, bed sheet, bed cover, kitchen and factory apron. are under processing .	I worked as <b>Principal Investigator</b> in this research project
10	Promoting handle properties of curtain cloth, prayer mat, table mat, shoe, sandal made of dyed jute fabric.	Pilot scale trials for developing fabric for curtain cloth, prayer mat, table mat, shoe, and sandal are under processing.	I worked as <b>Principal Investigator</b> in this research project
11	Development of resiliency of Jute and Jute blended carpet. BJRI Annual Technical Report 1998.PP 133-140	The technology was developed with the collaboration of Furat karnafully Carpet Factory (FKCF) Ltd., Chattagong.. Technology is ready for transferring to the Jute Industries.Paper published in the journal of ITET Vol-6 .1997.PP-23-25	I worked as <b>Principal Investigator</b> in this research project

12	Development of jute blending technique in rotor spinning technology BJRI Annual Technical Report 1999-2000.PP 4- 7	The technology was developed with the collaboration of College of Textile Technology, Dhaka. Technology can be transferred after standardization.	I worked as Co Investigator in this research project
13	Establishing the superiority of rotor spinning system over the ring spinning system for coarse count in the perspective of Bangladeshi cotton .	The technology was developed with the collaboration of College of Textile Technology, Dhaka. Technology is ready for transferring to the Tex. Mills. Paper published in the journal of ITET Vol-7.1997.PP-8-12	I worked as Principal Investigator in this research project
14	Technology of reducing ends down rate in Textile (spinning) Mill through controlling pneumafile waste collection.	The technology was developed with the collaboration of Padma Textile Mills , N.ganj in 1996 .Technology already transferred to the Padma Textile Mills Ltd. Paper published in the journal of ITET Vol-8.2000.PP-75-78	I worked as Principal Investigator in this research project
15	Technology of reducing hard waste in finishing section of spinning mills	The technology was developed with the collaboration of Padma Textile Mills , N.ganj in 1996. Technology already transferred to the Padma Textile Mills Ltd. Scientific paper published in the journal of ITET	I worked as Principal Investigator in this research project
16	Investigation of spinnability of Dhabdhabey pat by studying physico-mechanical properties and spinning performanc .BJRI annual Technical Report 1998.PP-5-8	The spinnability of Dhabdhabey pat established. Paper published in the journal of Jute and Fibre Research Vol -23(1&2)1998-99PP47-52(Press copy)	I worked as Principal Investigator in this research project
17	Identification of the best fibre by studying the Physico-chemical properties of jute of different age . BJRI annual Technical Report 1997.PP	The research is going on. Report has been published in the annual Technical Report of BJRI	I worked as Co Investigator in this research project
18	Problem identification of Ring section of Spinning Mill through Quality Circle.Quality Circle Report .1996...H.M.Zakir Hossain..Padma Textile Mills.PP 1-3	The technology was developed with the collaboration of Padma Textile Mills , N.ganj in 1996. Technology already transferred to the Padma Textile Mills Ltd	I worked as Principal Investigator in this research project

## Annexure-II

## 15(ii) Research programme Developed /Supervised/Executed:

SL. No.	Name of Programme developed	Present status of Execution	Remarks
01	Study on the physico-mechanical properties of Dhabdhabey pat and allied fibres. . BJRI Annual Technical Report 98-99 P 6-9	Executed	I worked as <b>Principal-investigator</b> in this research project
02	Production of fine yarn by blending jute (raw and modified) with cotton in rotor spinning technology. BJRI Annual Technical Programme 2000-2001 P 4-6	Executed	I worked as <b>Co-investigator</b> in this research project
03	Production of jute reinforced composites by using different available method. BJRI Annual Technical Programme 2000-2001 P 1-3.	Developed	I worked as <b>Principal investigator</b> in this research project
04	To improve the production and quality performance of conventional flyer frame by changing processes and processing parameters. BJRI Annual Technical Programme 2000-2001 P 3-5.	Developed	I worked as <b>Principal investigator</b> in this research project
05	Studies on some physical and textile properties of jute and allied fibres. . BJRI Annual Technical programme 2000-2001 P 17-18	Executed	I worked as <b>Co-investigator</b> in this research project
06	Production of jute (fibre,sliver,yarn and fabric) reinforced paper composites by using different available method. BJRI Annual Technical Programme 2003-2004 P 1-3.	Executed	I worked as <b>Principal investigator</b> in this research project
07	Production of pulp from jute waste and to study its economic feasibility. Annual Technical Report 2003-2004. PP -135	Executed	I worked as <b>Co-investigator</b> in this research project
08	Production of new jute products for textile uses. BJRI Annual Technical Programme 2005-2006 P 65-67.	Executed	I worked as <b>Co-investigator</b> in this research project
09	Production of rot proof jute fabric for nursery sheet/pot. BJRI Annual Technical Programme 2005-2006 P 71-72.	Executed	I worked as <b>Co-investigator</b> in this research project
10	Pilot scale production of jute based sanitary napkin and to study its market feasibility, entrepreneur's development and technology transfer. BJRI Annual Technical Programme 2005-2006 P 72-74.	Developed	I worked as <b>Co-investigator</b> in this research project
11	Technical services to industries to promote marketing of jute goods at home and abroad. BJRI Annual Technical Programme 2005-2006 P 76-77	Executed	I worked as <b>Co-investigator</b> in this research project
12	To optimize the rot proofing process for jute fabric in pilot scale with natural material. BJRI Annual Technical Programme 2008-2009 P 105-106.	Supervised	I worked as <b>Co-investigator</b> in this research project
13	To study the effect of acid and alkali on jute. BJRI Annual Technical Programme 2008-2009 P 107-108	Supervised	I worked as <b>Co-investigator</b> in this research project
14	Determination of actual percentage of jute and cotton in the blended yarn. BJRI Annual Technical Programme 2009-2010 P 66-68.	Developed	I worked as <b>Co-investigator</b> in this research project
15	Production and development of new jute products (calendar,nursey pot ) for textile	Developed	I worked as <b>Principal-investigator</b> in

	uses. BJRI Annual Technical Programme 2012-2013 p 73-75,2010-2013 p76-77		this research project
16	Production of outer wear with woolenised jute yarn and study its market feasibility. BJRI Annual Technical Programme 2012-2013 p 77-78.	Supervised	I worked as <b>Co-investigator</b> in this research project
17	Study on the determination of suitable brightener for jute fabric. BJRI Annual Technical Programme 2012-2013 p 79-80.	Supervised	I worked as <b>Co-investigator</b> in this research project
18	Study on the control of liquor ratio in jute dyed fabric for cost minimization. BJRI Annual Technical Programme 2012-2013 p 84-86/	Executed	I worked as <b>Co-investigator</b> in this research project
19	Studies on jute dyeing phenomenon with reactive dyes. Annual Technical Report 2005-2006 nad 2006-2007 PP 97-98	Executed	I worked as <b>Principal-investigator</b> in this research project
20	Processing of different types of jute wastes for production of fuel cake. Annual Technical Report 2006-2007 and 2007-2008 PP 71-72	Executed	I worked as <b>Principal -investigator</b> in this research project
21	Study the effect of acid and alkali on jute. Annual Technical Report 2008-2009 PP 108-111	Supervised	I worked as <b>Co-investigator</b> in this research project
22	Study and development of water repellent finishing process for jute product. BJRI Annual Technical Report 2010-2011.PP 114-116	Supervised	I worked as <b>Co-investigator</b> in this research project
23	Production of outer wears with jute woolenised yarn and studies its market feasibility. BJRI Annual Technical Programme 2012-2013 PP 77-78	Executed	I worked as <b>Principal Co-investigator</b> in this research project
24	Technical services to services to the industries to promote marketing of jute goods at home and abroad. Annual Technical Report 2012-2013.89-91	Executed	I worked as <b>Principal-investigator</b> in this research project
25	Study on the effect of temperature on the properties of dyed fabric in stenter machine. BJRI Annual Technical Programme 2012-2013 PP 87-88	Developed	I worked as <b>Co-investigator</b> in this research project
26	Standardization of jute dyeing with non-conventional technique.. BJRI Annual Technical Programme 2018-2019 PP 88-90.	Executed	I worked as <b>Principal-investigator</b> in this research project
27	Utilization of jute & jute waste and environment conservation. Annual Technical Programme 2018-2019 PP 83-84.	Developed	I worked as <b>Co-investigator</b> in this research project
28	Assesment of physico-chemical,mechanical and thermal properties of jute waste generated from jute processing industries and economic viability of its diversified use as fuel cake,activated carbon,insulation material and absorbent. Annual Technical Programme 2019-2020 PP 75-76	Supervised	I worked as <b>Co-investigator</b> in this research project