Brief report of the National Seminar for dissemination of the findings and activities of the project CFC/IJSG/21 Bangladesh Part held at the Conference Room of IJSG, Dhaka on 01.04.2014

<table>
<thead>
<tr>
<th>Title of the project</th>
<th>Development and Application of Potentially Important Jute Geotextiles</th>
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<tr>
<td>Project code</td>
<td>CFC/IJSG/21</td>
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<tr>
<td>Date of commencement</td>
<td>The project was launched on 12.11.2009 at New Delhi and physically took off on 01.01.2010</td>
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<td>Duration</td>
<td>60 months from 01.01.2010 to 31.12.2014</td>
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<td>Venue of the Seminar</td>
<td>International Jute Study Group (IJSG) Conference Room, Dhaka, Bangladesh</td>
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<tr>
<td>Date and time</td>
<td>01.04.2014 from 10.00 am - 5.30pm.</td>
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IJSG Conference Room, Dhaka during National Seminar on activities of Jute Geo-textiles (CFC/IJSG/21) held on 01.04.2014

Mr. Khandakar Mukhlesur Rahman, Executive Director, Jute Diversification Promotion Center (JDPC) welcomed the dignitaries and invited participants attending the National Seminar on behalf of Collaborating Institution (CI) in Bangladesh.

- Mr. Bhupendra Singh, Secretary General, International Jute Study Group (IJSG) could not participate as he was outside of Bangladesh on pre-scheduled program.
- Mr. D.C. Baheti, Chairman, IJIRA and Managing Director, Gloster Ltd., India welcomed all dignitaries and participants, expressed his thanks to give him the opportunity to speak in the seminar. He urged the Governments of Bangladesh and India to take up more projects of such nature on JGT. He called upon the jute industry to explore the JGT-market in Japan and Australia.
- Mr. Alok Kumar Khastagir, Project Manager, National Jute Board (NJB), India stated in his speech that the climate change and poverty are the two major global challenges which could be met by using natural technical products like JGT in construction.
- Shameema Sultana, Additional Secretary, Ministry of Textiles and Jute, Govt. of Bangladesh welcomed all the dignitaries, participants of India and Bangladesh in the National Seminar on JGT (CFC/IJSG/21). She said that JGT is a cheap construction material of future. Govt. of Bangladesh is interested in usage of products of Jute, especially Jute Geo-textiles.
- Mr. Phani Bhushan Chowdhury, Secretary, Ministry of Textiles & Jute, Government of the People’s Republic of Bangladesh while welcoming the dignitaries, participants from India and representatives of the Facilitating Agencies of Bangladesh in his inaugural speech stated that the execution of the project is very important on consideration of its environmental impact as also its implication on the economy of the large farmer community in both the countries Bangladesh and India and hoped that CFC would agree for extension of the project tenure as desired. He declared the National Seminar on JGT open.
SPEAKERS OF THE INAUGURAL SESSION

The 1st Technical session was presided over by Dr. G.V. Rao, Chairman, Standardization Committee, India Part.

The following papers by the Bangladeshi Scientists and technologists were presented. At the end of the presentation of papers, a general review was made by the Session-Chair.
1. **Professor Dr. Abdul Jabbar Khan, Department of Civil Engineering, Bangladesh University of Engineering & Technology (BUET), Dhaka** presented an overview of the potential uses of Jute Geo-textiles in Civil Engineering applications and its impact on jute sector of Bangladesh. According to him the performance of the field trials were found highly satisfactory and efficacy of JGT for the three specific application areas was established. Professor Jabbar Khan emphasized on formulation of a national directive for mandatory use of JGT as now being done in India. Prof. Khan also drew attention of the policy-makers and technocrats working in different national organizations to include JGT in the schedules of works of their respective organizations.

2. **Professor Dr. Abu Siddique, Department of Civil Engineering, Bangladesh University of Engineering & Technology (BUET), Dhaka** while presenting his paper on “Efficacy of JGTs as Sub-grade Reinforcement for Rural Road Construction in Bangladesh” mentioned that after application of JGT, the performances of these road sections were evaluated by conducting field CBR tests periodically. It was found in general that due to the use of JGT, the CBR values of the sub-grade soil increased with time.

3. The paper on “Performance Evaluation of River Bank Protection using Jute Geo-textiles” as presented by **Professor Dr. Mohammad Shariful Islam Department of Civil Engineering, Bangladesh University of Engineering & Technology (BUET), Dhaka** stated that physical mechanical and hydraulic properties of both untreated and treated JGTs were tested in the laboratory. Prospect of JGT application in five river bank sites (including two additional sites) situated in different geographic locations with diverse hydraulic characteristics had been investigated. Although in the first monitoring JGT was found to be decomposed in some places, no distress was found after 33 months. Natural soil filter (filter cake) was seen to have partially formed after six months. Test findings of the present investigation indicated that JGT can be effectively used for river bank protection.

4. **Major General Abu Syeed Md Masud**, Chief Coordinator, Construction Supervision Consulting Group, Padma Multipurpose Bridge Construction Project and Director General, HQ, Special Works Organization (SWO-West) made a presentation on “Use of Jute Geo-textile in Hatirjhee Project - A Case Study”. He stated that the major objective of the integrated development of Hatirjheel area was to ensure protection of an area of 311 acre land for storm water retention thereby minimizing the risk of inundation and reducing related environmental hazards. A total of 3 million sqm JGT were used in the project. The performance of JGT in this project was very effective.

5. **Professor Dr. A. B. M. Abdullah, Prime Asia University, Ex-DG (BJRI), EX-ED (JDPC), Chairman, DSK, Dhaka** made a presentation entitled “Jute and Jute Geo-textiles as Potential Green Technology to avert effects of climate change challenge of 21st Century”. Dr. Abdullah observed that Jute is a natural renewable product. Jute Geo-textiles address a variety of soil-related problems in civil and bioengineering fields. Green Technology is currently attracting global attention as rapid climate change and global warming has become a major concern and challenge of 21st century for sustainable and eco-friendly development. JGT fits in with this trend.
SPEAKERS OF THE TECHNICAL SESSION- I

This session held after prayer and lunch break, included four papers all by Indian Scientists. Professor Dr. A. B. M. Abdullah, Prime Asia University, Ex-DG (BJRI), EX-ED (JDPC), Chairman, DSK, Dhaka was in the chair for the session in which the following four papers were presented.

TECHNICAL SESSION- II

This session held after prayer and lunch break, included four papers all by Indian Scientists. Professor Dr. A. B. M. Abdullah, Prime Asia University, Ex-DG (BJRI), EX-ED (JDPC), Chairman, DSK, Dhaka was in the chair for the session in which the following four papers were presented.
1. **Mr. Tapobrata Sanyal, Chief Consultant, National Jute Board (NJB), India** in his presentation on “Global Acceptability of JGTs. – Issues to be addressed” stated that securing global accreditation of the JGT product would help larger uptake of jute which could help in poverty alleviation. He pointed out that accreditation of JGT depends on several factors such as convincing proof of its efficacy based on the results of the field applications, authentic test protocol, short-listing a few potentially important JGT for specified end-uses on the basis of theoretical concepts corroborated by results of field and evolving JGT-specific design methodology for different applications. National Jute Board (NJB) as the PEA of the project has identified issues that need to be addressed for securing accreditation in the two countries-India & Bangladesh.

2. “Provisional Design Methodology for Low Volume Roads and River-Bank Protection Works with JGTs” was presented by **Ms. Rumki Saha, Junior Project Executive, National Jute Board (NJB), India**. She stated that the design methodologies had been evolved on the basis of a semi-theoretical and semi-empirical approach. The design methodology may have to be fine tuned after analyzing more field data to be collected under the project.

3. **Mr. Dipankar Chakrabarti, Director, PricewaterhouseCoopers (PwC) Ltd., India** presented the paper on “Market Need Assessment and Supply Chain Analysis for Jute Geo-Textiles”. The objectives of this study would be to identify the market- national and international- for Jute Geo-textiles for three specific uses-erosion control of river bank, erosion control of hill slopes and construction of rural roads and suggest an action plan for streamlining the supply chain. The paper observed that in India and Bangladesh the use of JGT remained inadequate and far below the potential due to lack of proper sensitization of the stakeholders about the product.

4. **Mr. Alok Kumar Khastagir, Project Manager, National Jute Board (NJB), India** deliberated on “Marketing of Tomorrow’s Jute Products – JGTs.” He asserted that due to inroads of synthetic alternatives and technological changes in this sector, jute is gradually losing market share to a significant extent. In India, further erosion in this regard has been arrested through a government order for mandatory use of jute bags for packing food grains and sugar.

5. Mr. Khastagir categorically pointed out that the future of jute is highly dependent on the large consumption of alternative products of jute such as non-conventional value-added items like technical textiles, of which Jute Geo-textiles appear to be the most potential and prospective.

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**SPEAKERS OF THE TECHNICAL SESSION- II**
TECHNICAL SESSION – III

This was a mixed session that included two papers presented by the Indian Scientists and two by Bangladeshi Scientists. The following papers were presented in the session presided over by Mr. Md. Abul Kalam Azad, Additional Chief Engineer (IMP and Maintenance), LGED.

1. **Professor Dr. S. K. Ghose of the Department of Jute and Fabric Technology, University of Calcutta, India** presented the paper on “Testing of Woven JGT and Open Weave JGT for Geotechnical Application”. The DJFT, CU has carried out all relevant tests on JGT specimens applied at field trial sites and determined tolerance limits of different property parameters of JGT.

2. **Md. Asaduzzaman, Director Technology, Bangladesh Jute Research Institute (BJRI), Dhaka** presented the paper on “Studies on Physical Properties of Chemically Treated Jute Geo-textiles and their Applications”. He stated that tensile strength of rubber-treated Jute Geo-textiles was found to have increased by about 40-45%. The treated Jute Geo-textiles were used in the construction of river embankment in different trial sites of Bangladesh.

3. **Mr. Koushik Das, Scientist, Indian Jute Industries Research Association (IJIRA), India** made the presentation on “Guidelines for Applicant of Potentially Important Jute Geo-textile - Contribution of IJIRA”. He stated that Indian Jute Industries’ Research Association (IJIRA) was entrusted to design potentially important JGT and provide installation guidance in the field application.

4. The last technical paper titled “Control of Erosion of Hill Slope Top Soil Using Geo-Textile and Vegetation” was presented by Professor **Dr. Abdul Jabbar Khan, Department of Civil Engineering, Bangladesh University of Engineering & Technology (BUET), Dhaka**. In his presentation Prof. Khan elaborated on the methodology of applying open weave JGT at three sites along Alikadam-Thanchi road in Bandarban with different geotechnical and topographical parameters. He also mentioned about a special species of vegetation (Gyama) that proved effective to prevent top soil erosion.

5. 
The closing session was a open session by all consideration. No one was designated to preside over the session but the 5 veteran scientists of India and Bangladesh sitting on the dias conducted the session through mutual discussion and involving others to participate the lively course of the session. The scientists on the dias were:

Panel Discussion and Question Answer:
1. Dr. G. V. Rao, Chairman, Jute Geo-textiles Standardization Committee- India Part
2. Mr. Tapobrata Sanyal, Chief Consultant, National Jute Board (NJB), India
3. Professor Dr. Md. Hossain Ali, Chairman, Jute Geo-textiles Standardization Committee- Bangladesh Part
4. Professor Dr. Abdul Jabbar Khan, Department of Civil Engineering, Bangladesh University of Engineering & Technology (BUET), Dhaka
5. Professor Dr. A. B. M. Abdullah, Prime Asia University, Ex-DG (BJRI), EX-ED (JDPC), Chairman, DSK, Dhaka
Dr. G. V. Rao, Chairman, Jute Geo-textiles Standardization Committee- India Part initiated the discussion with a comment that at this stage we have reasons to be optimistic about Jute Geo-textiles. He was of the view that more authentic field data would require to be generated for analysis. With these comments Dr. Rao opened the floor for discussion.

Mr. Tapobrata Sanyal, Chief Consultant, National Jute Board (NJB), India referred to the presentation of Prof. A. Jabbar where in it was stated that in road construction studies the CBR values were found to increase with time after JGT application. Mr. Sanyal enquired of any specific trend that could be inferred in this regard. Dr. Jabbar said, depending on field trial data BUET has been trying to establish a relationship between the degradation of JGT vis-à-vis consolidation of the rate of moisture sub-grade soil and absorption by JGT. Mr. Sanyal observed that findings of this study would provide answers to many queries regarding adaptive usage of JGT.

Professor Dr. A. B. M. Abdullah, Prime Asia University, Ex-DG (BJRI), EX-ED (JDPC), Chairman, DSK, Dhaka observed that the hands on experience generated and data collected from JGT usage for different sites and conditions seem to be quite sound and sufficient. It is time now to approach the government for making provisions for mandatory usage of JGT in road construction, river bank erosion control and hill slope management. But this required the standardization of JGTs for different purposes to be completed as quickly as possible. At this point Dr. Rao suggested that, if not otherwise impossible, both Bangladesh and India need to establish unified approach to standardization for securing international accreditation of JGT.

Prof. Dr. Md. Hossain Ali, Chairman, Jute Geo-textiles Standardization Committee-Bangladesh Part supported the views of Dr. G.V. Rao is regard to formulating uniform standardization approach for International standard. Prof. Ali further informed that the JDPC, Standardization Committee and BUET have been working jointly to finalize the issue for Bangladesh.

Mr. Md. Abul Kalam Azad, Additional Chief Engineer, LGED stated that from LGED’s hands on experience in studies with JGT application and as we learn today, it may be confidently said that time has already come to start larger usage of JGT. From LGED, may it be known to all that all relevant cooperation and support in this connection will be provided with priority consideration. He suggested that the JDPC may take initiative to organize group discussion with different policy makers and engineers about JGT usage in place of using synthetic textiles.

At this point of discussion Mr. Fazlul Haque Bhuiya, Director, Janata Jute Mills Ltd. stated for information of all concerned that the private sector jute mills of Bangladesh have already been producing JGT of different specification to meet the demands of export. He further stated that the mills are ready to produce any quantity of JGTs of customer’s specifications. He thanked JDPC and Prof. Jabbar in particular for indicating the prospective domestic Market size of JGTs.

Dr. Chanden Kumar Saha, Operations Officer, on behalf of International Jute Study Group (IJSG) thanked all the participants of the seminar. He requested JDPC for taking immediate initiatives to include JGT in the work schedule of the end user organizations through the Ministry/Govt. chancel to make provisions of mandatory use of JGT in identified areas of applications. He thanked the PEA and JDPC for organizing such an important seminar of JGT in Bangladesh.

The Seminar was concluded with vote of thanks from Mr. Khandaker Mokhlesur Rahman, Executive Director, JDPC. He stated that the discussion, decision and recommendations of the Seminar would provide guidance for fruitful completion of the project.
Reminiscent moment of the closing session of National Seminar