



# Event brief

frugal  
innovation  
forum

scaling  
resilience

Savar March 22-24 2016

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#FIFresilience



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# Scaling resilience: an overview

The future is uncertain. Particularly for the 300 million extreme poor in South Asia, one constant fear is an unexpected shock—a natural disaster, an illness, political unrest, for example.

While we can't prevent all shocks, we can prepare and work to eliminate vulnerabilities. Scaling resilience means that as households, communities, and societies, we are better able to face what may lie ahead.

## Natural disasters disproportionately affect Asia and its people

In the past 20 years, the world has experienced over 6,000 natural disasters, such as floods, storms, heat waves, droughts and other weather events. Indonesia, India, China and the Philippines are among the five countries hit by the highest number of disasters.

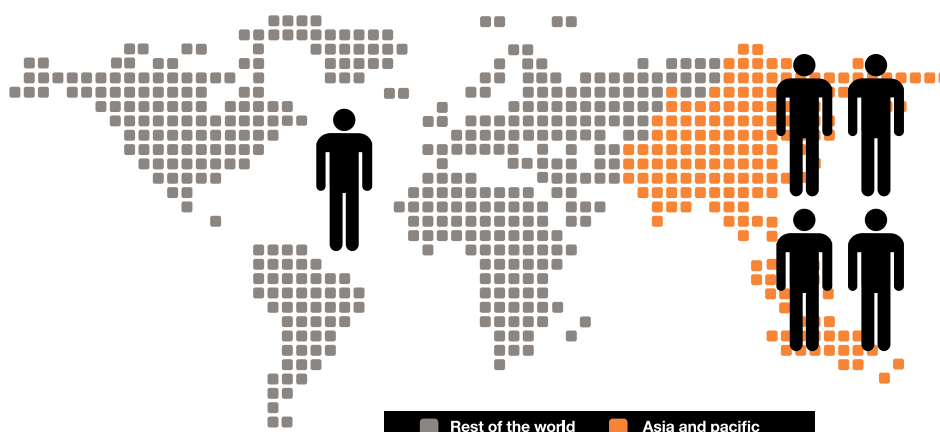
Within affected countries, the poor and marginalised are often the most vulnerable to natural disasters. Gender inequality also shapes risks. Christine Hunter, UN Women Bangladesh, says: "Inequality can create vulnerability....A man is more likely to own land, he may have a say over other resources that could earn him a living, or he might have better access to credit."

## Unnatural disasters and shocks pose growing risks

For most of history, humans had only to worry about natural disasters. But in modern times, technological or man-made disasters including industrial accidents, transport accidents, fires, political conflicts, and famine are a growing concern. In 2013, Bangladesh experienced one of the world's worst man-made disasters when a garment factory collapsed, killing over 1,100 people.

There are "aggravating factors" that increase the frequency, complexity and severity of disasters—natural or otherwise: climate change, unplanned urbanisation, and poverty. In South Asia, where urban growth is rapid and unplanned, there is ample cause for alarm. For example, a recent study in Bangladesh concluded that over half of Dhaka and its outskirts "are highly vulnerable to multi-dimensional disasters – both natural and human-induced incidents including flood, and waterlogging– thanks to unabated,

Four out of five people affected by natural disasters live in Asia or the Pacific



Source: UNESCAP



unplanned urbanisation over the past years.” While getting a comprehensive estimate of the economic consequences of disasters is difficult, the Insurance Information Institute reported that in 2014, 189 natural catastrophes caused USD 28 billion in insured losses, and 147 man-made disasters cost an additional USD 7 billion, equal to almost twice of Nepal’s GDP.

### Climate change creates new challenges for poverty alleviation

Overall, the world has seen a great reduction in extreme poverty in recent decades. Though South Asia has made significant progress in reducing poverty, according to the World Bank still over 300 million people in the region live on under USD 1.90 a day.

One driver of poverty reduction is the consistent economic growth experienced by most of the region. Unfortunately, growth has come with increasing economic inequality, both within cities as well as between the urban commercial centres and rural villages. Shifting economic opportunities and aspirations has led to rapid urban growth, with millions migrating annually.

The fact that these trends intersect with climate change make it more difficult to predict and mitigate the likely impact. Experts predict that some trends will include:

- Greater seasonal variability and changes in the prevalence and intensity of climate extremes
- Increasing frequency and intensity of natural disasters including floods, droughts, cyclones, and heat waves
- Rising food prices and food insecurity
- Increases in vector-borne diseases like dengue due to climate changes, as well as diarrhoeal diseases following cyclones and floods.

### A resilience perspective

In 2015, Nepal and Chile both experienced earthquakes of over 7.0 on the Richter scale with respective death tolls of over 8,500 and 11. Japan, experiencing a 6.6 earthquake had relatively few deaths from the quake itself, but the tsunami that followed led to "a profoundly man-made disaster": one of the worst nuclear disasters in history, killing over 1,200. The trajectory to full economic, social and political

### What is Resilience?

“The ability of countries, governments, communities and households to manage change, by maintaining or transforming living standards in the face of shocks or stresses..... while continuing to develop and without compromising their long-term prospects” (DFID).

### What determines a country’s adaptive capacity?

“A country’s resilience to climate change depends first and foremost on its adaptive capacity. At a more fundamental level, a country’s adaptive capacity depends on its economic, social, and human development, which are closely related to: (i) income, inequality, poverty, literacy, and regional disparity; (ii) capacity and governance of public institutions and public finance; (iii) availability or adequacy of public services including education, health, social protection, and social safety nets; and (iv) capacity for economic diversification, especially at local levels” (LSE).

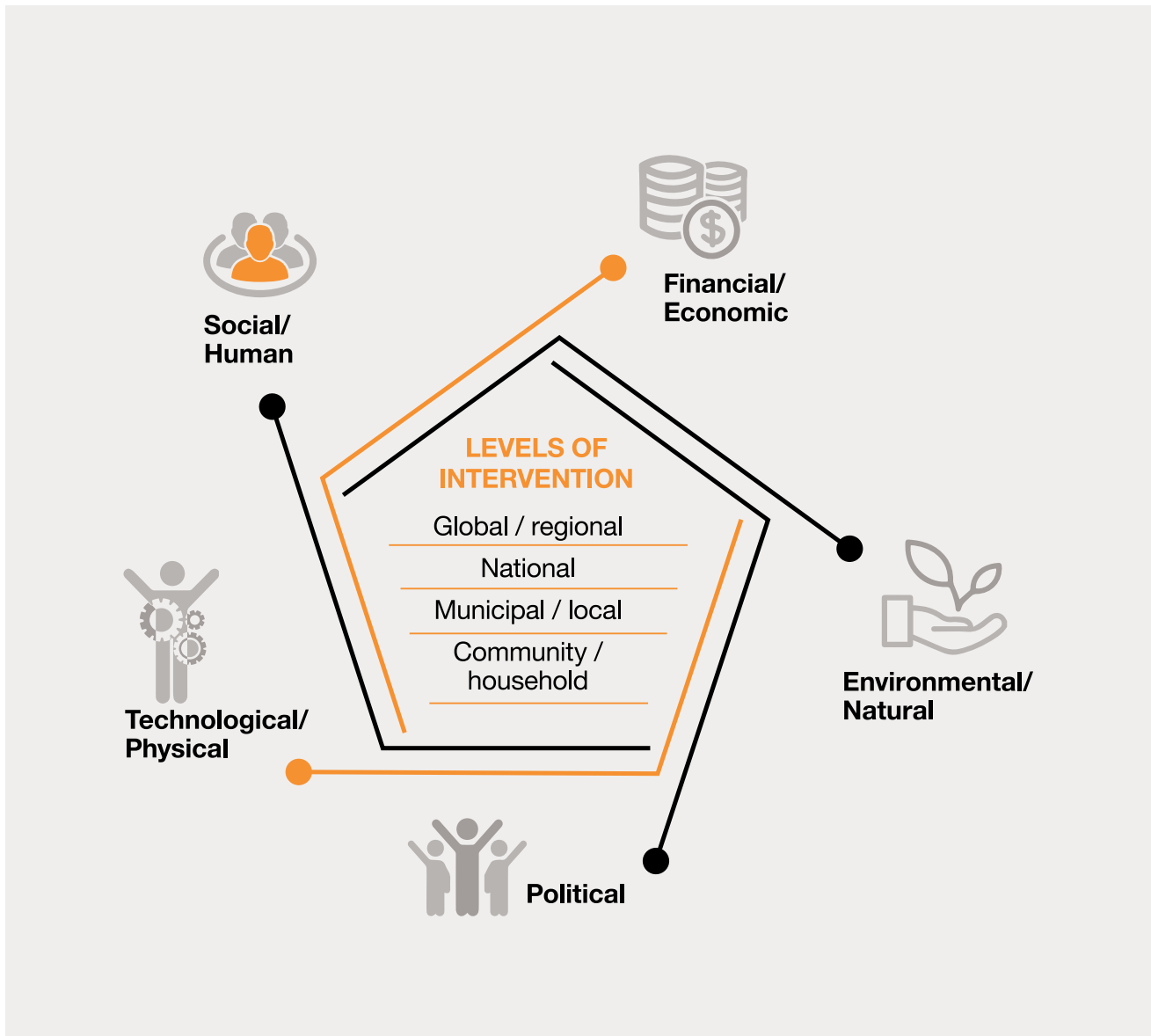
recovery looks remarkably different across these three countries.

What we call “disasters” are in fact the interaction between a hazardous event (natural or man-made) and vulnerabilities. Some types of hazardous events can be prevented, but many cannot. There are many ways to reduce vulnerability that can mitigate the impact of unstoppable hazards.

A related concept drawn from psychology and other fields is that of resilience. Defined in a number of ways, resilience looks at how individuals, communities, and systems cope with trauma and shocks. Many psychologists define human resilience as the ability to transform adversity into a growth experience. Ecologists define resilience as the capacity of a system to tolerate disturbances while retaining its structure and function.

At a minimum, in the development context resilience means the capacity to anticipate, prepare for, cope with, and recover from shocks and bounce back to where one was before the shocks occurred. Equally important, increased resilience could also improve livelihoods and support economic growth and transformation while mitigating vulnerability to future shocks.

## Types and levels of resilience-building activities



*Because vulnerabilities are multi-dimensional, strategies to build resilience must also be.*

Source: DFID.

### Applying resilience to poverty alleviation

Resilience begins with the reduction of vulnerabilities. Given the link between poverty and vulnerability to shocks, one of the most important dimensions of building resilience is to alleviate poverty and the root causes that contribute to it.

As described in a recent Lancet article, in recent decades Bangladesh has seen a significant reduction in the mortality rate and health consequences of natural disasters. Many experts consider the main cause for improvement of the overall gains in health status, achieved through increased awareness about diarrhoeal disease, high levels of immunisation, and increased distribution of healthcare. In many cases, household construction and materials are an important predictor of damage.



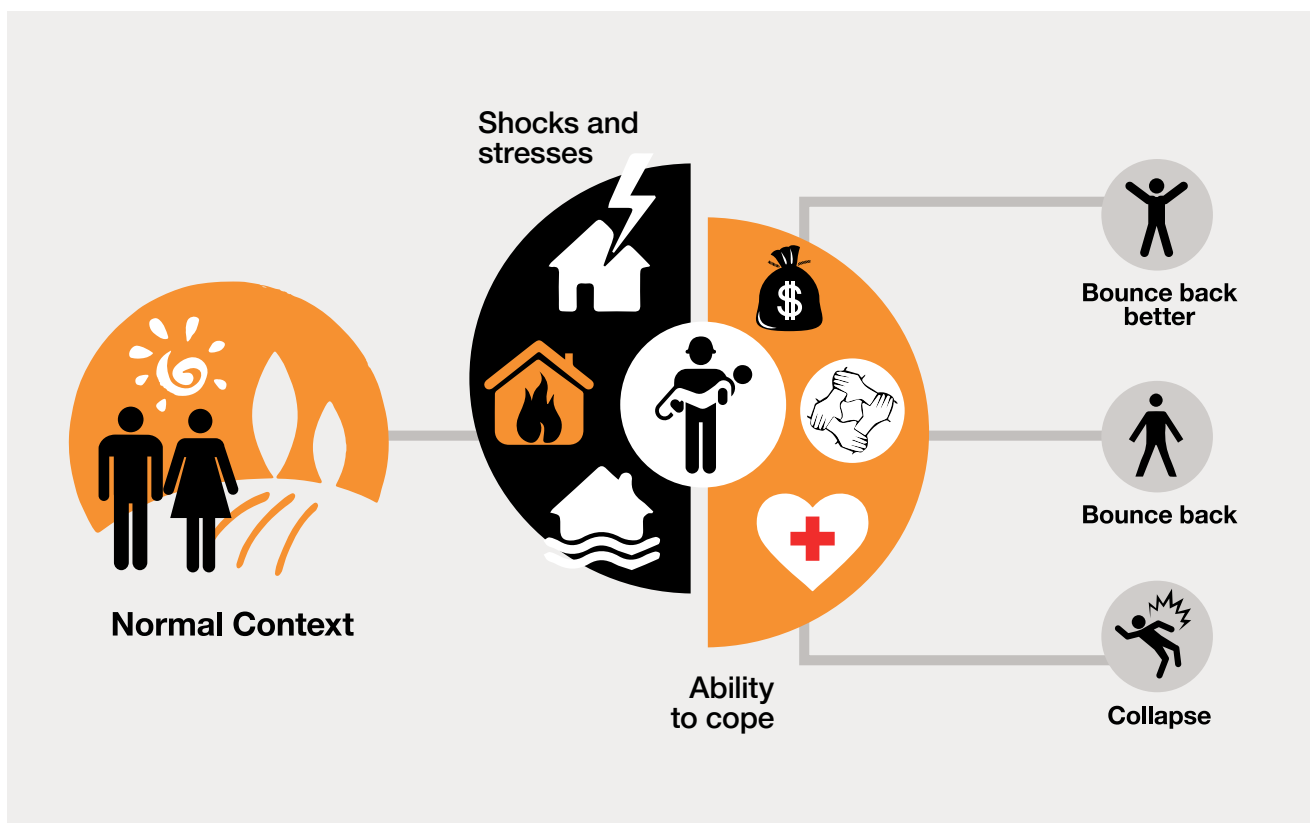
Others have looked at the linkage between social cohesion in a community and death tolls from events like heat waves, finding that strong social networks are an important form of protection. More recently, the increasing household ownership of mobile phones has greatly enhanced the flow of information that enables communities to both prepare earlier for disasters, and mobilise more resources in the aftermath (read “No lines, no relief camp” for a recent example). BRAC’s community women’s groups are often extremely active, serving as a platform for raising issues and generating solutions. After disasters take place, local grassroots organisations like these can also ensure that communities receive required resources and distribute them equitably.

Immediate response in the face of a shock can also prevent many families from falling into poverty. Food, clean water, and medical treatment are often the first concerns. However, access to appropriate financial tools, often a combination of savings, credit and insurance, can allow agriculturally-dependent households

to replant immediately. Organisations like VisionFund are developing specific “recovery loans” to offer immediately following disasters, as they did following Philippines’ Typhoon Haiyan in 2013 (read “financing for flood-hit families” on BRAC’s related work). One area for exciting scientific innovations is agriculture. Researchers have developed a number of new breeds of crops that are resistant to floods, droughts or appropriate for areas where salinity is growing. These range from hybrids of existing breeds of rice, the region’s staple starch, to adoption of new crops. In Bangladesh’s coastal areas, salinity is rising both because of climate change and certain practices of local shrimp farmers. Some farmers have begun to plant sunflowers, a naturally salt-resistant crop, and a fledging sunflower oil industry is emerging.

Agriculture is a particularly important area of focus for a few key reasons. First, there is the challenge of feeding more people as arable land shrinks. Second, fluctuations of food prices can be a significant shock for families. Studies from Afghanistan and other contexts demonstrated that when food prices rise, many households substitute nutritious and

### The elements of resilience



*There are many potential points of intervention that can impact response to shocks.*

Source: GSDRC

*"We talk about climate change and pay little attention to on-the-ground situations...The economists are confined to a one-way discussion. We have made development philosophy problematic. We must keep in mind that Bangladesh is no more a country of famine. We need to seriously think which path we take without causing harm to the environment."*

**Dr. Hossain Zillur Rahman**  
Power and Participation Research Centre





high-protein foods for nutrition-poor staples. Women's consumption often drops first in the household, but if prices remain high, families may cope by cutting caloric consumption, selling productive assets, taking children out of school, and avoiding health expenditures. Food prices are also sensitive to changes in weather, political stability, availability of transport and many other factors, and keeping them at a reasonable and stable level can be challenging.

Meanwhile, rapid migration rates are overwhelming many South Asian cities, and the urban poor often face overcrowded housing conditions and live without access to basic services like hygienic sanitation. During floods, these daily challenges amplify into full-fledged health crises, creating significant risks of waterborne disease. In these crisis settings, women often face additional challenges, ranging from lack of private sanitation to sexual violence. In some cases, the perceived risks are intense enough that adolescent girls are sent to stay with relatives in unaffected areas. In post-flood settings, studies in Bangladesh found that most employment opportunities are available only to men; in extreme cases, women resorted to selling jewellery (their main asset).

Another approach to resilience is enabling people to move away from seasonal and agricultural livelihoods and into higher-skilled and secure opportunities. With fast growing IT sectors in India, Bangladesh and Pakistan, booming service sectors, and other rising industries, there is great demand for new types of skills. For example, BRAC has recently launched initiatives to help youth become certified pharmacists. It is also working with hotels to provide trained hospitality staff, primarily young women.

## Creating resilient systems and policies

To date, much of the action in South Asia has been reactive; there has been little strategic planning on issues of addressing urbanisation, the consequences of climate change, or disaster preparedness. However, with several large and rapidly growing economies, India and other South Asian nations need to ensure that they are developing in a way that won't exacerbate the problems.

Furthermore, ensuring natural resources for billions of people already poses many challenges. India's Energy and Resources Institute says the gap between water supply and demand is expected to be 50 per cent by 2030. In addition, India along with Pakistan, Bangladesh and Nepal are already facing severe energy crises without a clear solution in sight. By some estimates, in 2030 Pakistan will have a demand for electricity that's over three times its current supply.

These issues are of course not simply issues of resource availability. For example, a tremendous amount of water goes into agriculture, an important source of livelihood for over 700 million Indians. Kugelman and Banaji write, "Agriculture was singled out as India's most resource-inefficient sector, due to the massive energy subsidies given to farmers to allow their electric pumps to access groundwater year-round. Pumps operate even when land isn't being farmed." Part of the solution will include working with farmers on adopting new production practices and technologies, and improving the efficiency of market linkages and storage.

And so the road leads back to the need for efficient and inclusive planning. Many South Asian cities face large challenges in storing water, safe disposal of waste, and other critical infrastructural issues. With the projection that half of South Asia will live in cities by 2050, essentially double today's population, these problems have the potential to explode if not properly addressed early.

Another major area to address is that of service delivery—while the basic infrastructure for delivering services like health, education, electricity and so forth has been developed, there are many existing concerns about quality. These systems are crucial to economic growth and wellbeing, particularly if they can cope with shocks.

One promising area where several governments are experimenting is in the use of technology in service delivery. An obvious application is to create alerts for approaching hazards, especially fast moving cyclones when minutes count. Practical Action has worked with the Bangladesh government to set up a digital weather information board, disseminating weather and flood forecasts over SMS. They also provide agricultural advice on a regular basis.

Building robust communication systems creates a new layer of resilience for societies. "Often, some communication from the government is needed to tell people when it's safe to come back or whether they should go somewhere else," said Victoire Rio, from InSTEDDiLab. The infrastructure to



A photograph showing two men in a dry, cracked soil field. One man, wearing a white shirt and yellow pants, is crouching and looking at the ground. The other man, wearing a light blue shirt and tan pants, is also crouching and looking at the ground. A third person's hand is visible on the right, holding a black handheld device with a screen and buttons. The ground is dry and cracked, with some sparse, dry grass.

### Where could we use frugal innovations?

- Low-cost tools that conserve natural resources and enable efficient utilisation, for example targeting irrigation of crops
- Effective ways of communicating post-disasters and enabling communities to report needs and damage using existing technology
- City planning techniques that enable urban centres to cope with rapid growth and include arriving migrants
- Inclusive strategies for smoothing market shocks and food prices



communicate to large populations easily does not develop in a day, which is why building these types of initiatives into government priorities early on is critical.

Perhaps the biggest challenge is that these changes are happening simultaneously, and governments are tasked with responding to several diverse, complex needs at once. Varad Pande distinguishes between the major dilemmas that policies for urban and rural contexts need to address: for cities, the primary goal is to build infrastructure at an affordable cost. In rural areas, the emphasis is on enhancing access to natural resources. Yet these ecosystems and social networks are connected in complex ways that make it difficult to address any dimension in isolation.

Of course, governments don't necessarily need to tackle all challenges on their own. At the community level, there is a lot of required work to build up awareness of services and digital literacy. Mojolab Foundation, for example, works to be platforms that enable remote communities both to access media easily and share information through a simple mobile interface.

There are also many emerging business opportunities emerging in this new context. Large-scale opportunities exist in industries from water supply, wastewater, and sewage disposal. Many Indian cities have begun pursuing partnerships with local and foreign companies in the hopes that this approach will lead to efficient and responsive action. There is an increasing number of non-profit organisations, from India's Goonj and Nidan to Bangladesh's Waste Concern, that are also seeking innovative ways to include the poor in these value chains.

Businesses are also key stakeholders on issues of environmental safety and safe environments. With regard to the risk of man-made disasters, some of the best prevention measures are sound construction, engineering, and electrical lines. While the government must regulate these, proactive business leaders can accelerate better practices.

## No policy change without people's action

Why wait for others to take up these issues? Widespread social mobilisation is an important driver of policy decisions in democratic countries. Leaders like Syeda Rizwana Hasan of Bangladesh Environmental Lawyers Association, realised this early on and chose advocacy methods of engagement, rather than aggression. When BELA approaches a policy issue like industrial pollution, river encroachment or forest management, they do so with a conscious effort of building awareness, widespread mobilisation, and systemic change. In efforts to galvanise public awareness and action, media plays a pivotal role in creating compelling narratives that influence public opinion.

Youth groups focused on resilience issues are also a global trend. For example, the Commonwealth Youth Climate Change Network includes over 150 young leaders from over 20 countries, committed to achieving collective impact at the national and international level. As they are likely to face the more extreme consequences of longer-term issues like climate change, it is important to engage them in the dialogue and advocacy efforts as early as possible.

## Scaling resilience requires frugal innovation

When looking at solutions for resilience that will be feasible to scale up to the millions or even billions, cost is a key parameter to keep in mind. In recent years, the term frugal innovation has grown in popularity as a way to describe what comes naturally to many operating in resource-constrained settings: creatively improvising with what's available to solve a pressing need. In a recent report on innovation and resilience, the Overseas Development Institute argues that what's needed are,

*“‘good enough’, unaided innovations developed by people in low-income communities, producing solutions that iteratively respond to the challenges or opportunities facing their local situation and their interests and values. These innovations are often frugal, simple and based on indigenous/traditional knowledge by nature.”*

South Asia is known for frugal solutions. In fact, many companies from the United States and Europe, such as GE, are partnering with South

Asian institutions to develop cheap and effective technologies that can be adapted for use globally.

These approaches and the frugal innovation mindset are what is needed to build resilience, particularly in thinking about how to ensure opportunities for the poor to thrive.

## The 2016 Frugal Innovation Forum

This year, BRAC is hosting its fourth Frugal Innovation Forum exploring questions in development and resilience. Starting from innovative approaches to the best practices, lessons learned from previous experiences, to the role of technology, society and organisations in scaling resilience in our communities. This event provides a platform for practitioners to explore effective innovations and create opportunities for dialogue among leaders in the global south.

Through a range of discussions and sessions, we plan to focus the event on answering four overarching questions:

1. What are innovative approaches to increasing resilience of poor households and communities that are replicable or applicable broadly across South Asia?
2. How can institutions and policies enable poor communities to better tolerate and respond to shocks?
3. In reflecting on responses to recent disasters within the region, what are the important lessons to incorporate into development practice?
4. If we embrace resilience as a priority for policy and practice, what are possible opportunities for development and poverty alleviation?

Following the event, BRAC and various knowledge partners will prepare several outputs summarising the discussions, with a particular emphasis on distilling and disseminating key insights related to these key questions.



# Speakers profiles



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**Ainun Nishat**  
*Professor, BRAC University*

Dr. Ainun Nishat is recognized as a pioneering expert of water resource management and climate change in Bangladesh. As an expert in water resource management, he was a member of the IndoBangladesh Joint River Commission and played a vital role in the Ganges Water Treaty Negotiations that were finalized in 1996. He was a member of the Panel of Experts who consulted the construction of the Jamuna Bridge, the longest bridge in Bangladesh and currently is a member of the Panel of Experts consulting the construction of the Padma Bridge.

*BRAC University (BRACU) was established in 2001. It follows liberal arts approach to education which nurtures fresh ideas and gives new impetus in the field of tertiary education. It ensures a high quality of education and aims to meet the demands of the contemporary times.*

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**Anna Minj**

*Director, Community Empowerment, Integrated Development and Gender Justice and Diversity, BRAC*  
Email: anna.m@brac.net

Ms. Anna Minj joined BRAC in April 2009 and served as the director in various programmes. She is currently the director of the community empowerment programme, integrated development programme and gender justice & diversity department. She started her career with Caritas Bangladesh in 1987 where she served as the programme officer of Child Care & Orphanage Management Programme. She later on became the project coordinator of Integrated Women's Development Programme in the same organisation; a position which she held for 12 years and successfully managed its three phases. She was also gender programming advisor in CARE Bangladesh and later led the gender section as coordinator for about nine years.



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**Anshu Gupta**

*Founder Director- GOONJ*  
Email: anshu@goonj.org

Mr. Anshu Gupta is the Founder Director of GOONJ. He is popularly known as the Clothing Man and recipient of 2015 Ramon Magsaysay Award. Starting as a freelance journalist, Mr. Gupta left a corporate job in 1998 and founded Goonj with a mission to make clothing a matter of concern and to bring it among the list of subjects to work on, for the development sector. Under his leadership Goonj has taken the menacing growth of urban waste and used it efficiently as a tool to trigger large-scale rural development. Mr. Anshu Gupta has studied Mass communication and has masters in Economics.

Goonj is one of the leading organisation in India in terms of Disaster relief and rehab. It is known for its systematic approach, innovations and for dignifying the relief.



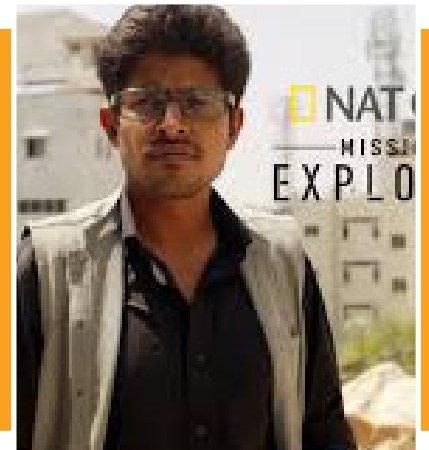
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**Arjun Venkatraman**

*Open Solutions Architect, The MojoLab Foundation*  
Email: mojoarjun@gmail.com

Mr. Arjun Venkatraman is an open solutions architect engaged in designing and deploying technology interventions with functional communities.

Mr. Arjun Venkatraman is an open solutions architect engaged in designing and deploying technology interventions with functional communities. MojoLab is a team of professionals engaged in creating and implementing innovative solutions that provide people who have limited access to technology and resources a means to voice their opinions and to participate in democratic processes. They also assist organizations engaged in development activities to work better with their communities by providing better ways to receive and process information from the community





## Arshiya Bose

*Founder, Black Baza Coffee Co.*

Email: arshiyabose@blackbazacoffee.com

Ms. Arshiya Bose is a conservationist and coffee addict who founded the Black Baza Coffee Co, a social/environment enterprise that supports coffee growers in India to follow biodiversity-friendly farming practices by providing incentives and guaranteeing a buy-back of coffee harvested from participating farms. Black Baza Coffee's vision is to have a world where coffee farms support biodiversity and all producers have secure and stable livelihoods.

She completed her PhD from the University of Cambridge in 2014 on markets for sustainable coffee and continues to do impact-oriented research that can enable sustainable coffee production either through her own enterprise or voluntary policy mechanisms.

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## Asif Saleh

*Senior Director, Strategy, Communication and Empowerment, BRAC*

Email: asif.s@brac.net

Mr. Asif Saleh is the senior director of strategy, communication and empowerment for BRAC and BRAC International. He oversees strategy, communications, advocacy, ICT and social innovation lab, and in charge of empowerment cluster, which includes gender justice and diversity, migration and human rights and legal aid services. Prior to joining BRAC, he was an executive director at Goldman Sachs and also worked for GlaxoWellcome, NorTel and IBM. Upon his return to Bangladesh in 2008, he worked as a policy specialist for the UNDP-funded project access to information (a2i) programme at the prime minister's office.

Mr. Saleh is the founder of Drishtipat, a global organisation focusing on human and economic rights of Bangladeshi people. He contributes regularly to local and international dailies.



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## Atonu Rabbani

*Assistant Professor, University of Dhaka*

Email: atonu.rabbani@gmail.com

Dr. Atonu Rabbani is an Assistant Professor of Economics at University of Dhaka. He is also a Member, General Body at the Economic Research Group. Previously he worked as a full-time Research Fellow at the Institute of Microfinance and as a Post-Doctoral Fellow with the Department of Medicine and Center for Health and Social Science, both at the University of Chicago. He specialises in empirical microeconomic research by focusing on programme evaluation as well as general labour and health related topics.



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## Bithun Tasnuva Mazid

*Senior Sector Specialist, Disaster Management and Climate Change, BRAC*

Email: bithun.mazid@brac.net

Ms. Bithun Tasnuva Mazid is currently serving as the communications focal person at the disaster management and climate change programme (DMCC) of BRAC. Much of her work is focuses on rehabilitation of Rana Plaza survivors. She is currently leading one of the social innovation fund projects to orient the survivors to use mobile money. Ms.Mazid earned her bachelor's degree in environmental science and later pursued her masters in natural resource and disaster management. Her curiosity for working in the humanitarian response sector evolved after her exposure to the great eastern Japan earthquake and tsunami in 2011 during her work experience at Sony Corporation.







### Bitopi Das Chowdury

*Standard Chartered Bank, Bangladesh*

Email: BitopiDas.Chowdhury@sc.com

Ms. Bitopi Das Chowdhury joined as Country Head of Corporate Affairs, Bangladesh in June 2009. She has nearly 20 years of diversified experience in corporate planning, communications & marketing in local & multinational organizations.

Ms.Chowdhury also led a consultancy service on Business Process Reengineering, Marketing Research, and Strategic Management, particularly on the implementation of the Balanced Scorecard.

*Standard Chartered Bank is a leading international banking group building a sustainable business over the long term.*

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### Dilruba Haider

*Coordinator, Gender and Climate Change, UN Women*

Email: dilruba.haider@unwomen.org

Ms. Dilruba Haider has worked for the last 23 years in the fields of Disaster Risk Reduction, Climate Change and Gender. At DFID, She was DM focal point for 10 years managing major flood and cyclone response projects. At UNDP she was the Assistant Resident Representative managing the flagship DRR programme of the country: CDMP1. Ms.Haider taught part-time at the post-graduate programme on DM in BRAC University. In addition, she worked at the grassroots level on CBDRM for 3 years with Bangladesh Disaster Preparedness Centre, and on knowledge management at UNDP for 3 years. She currently works on gender and CCA/DRR/HA at UN Women, primarily for knowledge generation, gender mainstreaming, and capacity building.



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### Dr. Malabika Sarker

*Professor & Director Research, James P. Grant of Public Health, BRAC University*

Email: malabika@bracu.ac.bd

Dr. Malabika Sarker is a Professor and Director Research at the James P. Grant School of Public Health at BRAC University. She is a physician and holds a Doctorate in Public Health from the Heidelberg University in Germany and an MPH from Harvard University. Dr.Sarker worked as a Senior Lecturer at the Institute of Public Health, Heidelberg University and conducted research on prevention of mother to child transmission of HIV, and quality of maternal care in several Sub Saharan African countries. She has co-authored 35 peer-reviewed articles and specializes in mixed-methods research. Her current scholarly interests include impact evaluation, implementation research and health system improvement.

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### Eduardo Jezierski

*Chief Executive Officer/Chief Technology Officer, InSTEDD*

Email: edjez@instedd.org

Mr. Eduardo Jezierski is the CEO/CTO of InSTEDD. He is passionate about the opportunity that technology and design bring to overcome pressing challenges. His

*InSTEDD is a silicon valley nonprofit created as a TED prize and seed funded by Google.org that helps NGOs, governments and grassroots communities worldwide design and apply technology to improve health, safety and sustainable development.*





## Ethan Mayers

*CEO, Tau Investment*

Email: ethan@tauinnovations.com

Former television producer turned entrepreneur, Ethan Mayers is a global expert on the intersection of technology, innovation and growth. He is the CEO for Tau Innovations, a startup developing transformative technologies for the global supply chain. Previously, Ethan was the CEO and founding partner of Synthenai, a boutique advisory firm working primarily with financial services companies and startups that analysed, designed, built and implemented business information systems and operational processes for growing firms. He is the author of the upcoming book *The Agile Shepherd*. The book outlines solutions to common business growth issues he's identified by working with small and medium-sized businesses at various points in their lifecycle.

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## Farzana Kashfi

*Programme Manager, Skills Programme, BRAC*

Email: farzana.kashfi@brac.net

Ms. Farzana Kashfi is currently working at BRAC as a Programme Manager for the Skills Development Programme. Ms.Kashfi earned her Bachelor's degree from the University of Toronto, Canada, in Mathematical Applications in Economics and Finance. In 2014, she graduated with a Masters in Public Administration from the School of International and Public Affairs (SIPA) at Columbia University. Before joining BRAC, Ms.Kashfi worked in different capacities with Acumen Fund, World Bank, Grameen Bank and International Labour Organisation.



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## Gawher Nayeem Wahra

*Director, Disaster Management and Climate Change, BRAC*

Email: nayeem.wahra@brac.net

Mr. Gawher Nayeem Wahra joined as the Director of BRAC's Disaster Management and Climate Change programme in July 2015. He has over 28 years of experience managing complex emergencies and natural disasters at local, regional, national and international level. Mr.Wahra worked with disaster risk reduction, and climate change adaptation programmes with focus on child protection in emergencies at different humanitarian organisations such as Oxfam, CARE, ActionAid, Save the Children, PLAN, Swiss Development Cooperation and UNICEF. He has experiences working in Kurdistan (Northern Iraq), India, Myanmar, Nepal, Pakistan and Somalia with specific assignment on Disaster Risk Reduction and humanitarian response.



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## Hasin Jahan

*Country Director, Practical Action Bangladesh*

Email: Hasin.Jahan@practicalaction.org.bd

Ms. Hasin Jahan is a development professional specializing in water, sanitation and agriculture sectors. She has proven experience in managing large-scale projects targeting poor and vulnerable populations in geographically and technically challenged contexts in Bangladesh. Her work remains deeply committed to helping the poor in Bangladesh and considering appropriate technology as a means to improve poor people's livelihoods. Ms.Jahan works with different development and corporate partners including ministries and departments of the Government of Bangladesh, city corporations/municipalities. In Bangladesh, her presence in the media, national level events and policy dialogues is distinguished.





## Hasina Kharbhih

*Founder and Chief Executive Office, Impulse NGO Network*

Email: hkhbarbhih@impulsesocialenterprises.com

Hasina Kharbhih is an Ashoka/Aspen Fellow and Fulbright Scholar. She serves as the Founder and Chair of Board for Impulse NGO Network – a 23 year-old award-winning non-profit organisation, working under the Impulse Model and addressing human trafficking issues. She is Founder and Managing Director of Impulse Social Enterprises, a for-profit organization and winner of the CNBC's Masterpreneur Reality Show Season 1 in 2013 for the best women livelihood business initiative in Northeast India. Ms.Kharbhih is the recipient of numerous awards including Commonwealth Youth Programme Asia Award for Excellence in Youth Work 2002, US Department of State, International Visitors Programme, 2004-2006, and Commonwealth Youth Ambassador in 2007.

## Hossain Zillur Rahman

*Executive Chairman*

*Power and Participation Research Centre (PPRC)*

Email: hossain.rahman@gmail.com

Mr. Hossain Zillur Rahman is an academic, economist and policymaker from Bangladesh. By training an eminent economist and a political sociologist, Mr.Rahman is renowned as a poverty and governance specialist of the country. He led the drafting of the poverty reduction strategy of the government in 2005 and was a member of the Independent South Asian Commission on Poverty Alleviation (ISACPA). He founded the Dhaka-based think-tank Power and Participation Research Centre (PPRC) in 1996 and prior to that was for over twenty years a leading researcher at the Bangladesh Institute of development Studies. On 9 January 2008, he was appointed as an adviser (cabinet minister) to the Caretaker Government of Bangladesh.



## Ifty Islam

*CEO, MIUP Bangladesh*

Email: ifty.islam@at-capital.com

Mr. Ifty Islam is the CEO of MIUP Bangladesh and Chairman of AT Capital. Mr. Islam was a founding partner of AT Capital, establishing the firm in 2007. He has focused on macro market strategy and sector research with a wide range of clients including leading international fund managers as well as large local corporates. Mr.Islam has worked on consulting projects for the Government of Bangladesh in a variety of areas, including public-private partners, capital markets development, climate change, ready-made garments and the energy sector. Mr. Islam was formerly a Managing Director at Citigroup, London from 2004-2007 where he was Head of Macro Strategy/Hedge Fund Research.

## Jaideep Prabhu

*Professor, Cambridge University*

Email: j.prabhu@jbs.cam.ac.uk

Dr. Jaideep Prabhu is Professor of Marketing and Jawaharlal Nehru Professor of Indian Business at Judge Business School, University of Cambridge. He has published in leading academic journals and his work has been profiled by the BBC, Bloomberg BusinessWeek, the Economist, Financial Times, Le Monde, New York Times, and the Times. He has consulted with or taught executives from Bertelsmann, Barclays, BP, BT, GE, the UK Government, IBM, ING Bank, the NHS, Nokia, Philips, Roche, Shell, Siemens, Unilever, Vodafone and Xerox among others. He is the co-author of Jugaad Innovation: Think Frugal, Be Flexible, Generate Breakthrough Growth. His most recent book, Frugal Innovation, was published in February 2015.







## Jay Evans

*Regional Director - Asia, Medic Mobile*

Email: jay@medicmobile.org

Mr. Jay Evans is the Regional Director of Medic Mobile. He was previously the Senior Advisor for Global Business Planning at the American Cancer Society. Mr. Evans has over 12 years of experience in international development in Asia, Europe, and Latin America in the fields of public health and housing. He has BA in International Affairs cum laude from George Washington University, MS in Development Economics from The University of Pennsylvania, Department Chairman's award for academic excellence.

*Medic Mobile uses human-centered design, working with community health workers, nurses, patients, and community members who are seeking ways to make health care delivery more efficient, effective and able to reach more people.*

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## KAM Morshed

*Director, Advocacy for Social Change, BRAC*

*Information and Communication Technology Partnership Strengthening Unit, BRAC*

Email: k.morshed@brac.net

Mr. Morshed leads BRAC's advocacy, partnership, and technology teams. He joined BRAC in October 2015. Previously, he led Bangladesh's Policy, Innovation, and Communication teams at UNDP as an assistant country director for over 10 years. Additionally, he managed UNDP-Government partnership and supervised various programme portfolios such as MDG, ICT4D, aid effectiveness, south-south cooperation, pro-poor trade, private sector, etc. Mr. Morshed designed and oversaw implementation of many successful projects, among which Access to Information Programme (a2i) at the Prime Minister's Office in Dhaka is the best known. He worked as a member of several national and international committees of senior leaders on issues such as financial inclusion and innovation to name a few.



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## Kaosar Afsana

*Director, Health, Nutrition and Population, BRAC*

Email: afsana.k@brac.net

Dr. Kaosar Afsana is the director of health, nutrition and population. She is a professor in James P Grant School of Public Health at BRAC University. She has been awarded many prestigious awards including the Woman of Distinction Award 2011 by the NGO Committee of the Women Status, New York for her contribution to maternal health and women's empowerment; Presidents' Prize for the best thesis on an Asian topic by Asian Studies Association of Australia, D.K. Agencies India's award for the best Australian doctoral thesis on an Asian subject, the 2003 University Research Medal and the Faculty Research Medal for the best PhD thesis from Edith Cowan University.



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## Khondaker Hasibul Kabir

*Assistant Professor, BRAC University*

Email: khkabar@bracu.ac.bd

Since 2005 Kabir has been active in facilitating design studios for community led housing projects. He has also been working on disaster resilient housing projects in Bangladesh and in Haiti. After receiving a Bachelor in Architecture from Bangladesh University of Engineering and Technology in 2000 he worked at Atelier Robin Architects as project architect for two years. He also worked in participatory action research projects for developing building-for-safety options in different flood-prone rural areas of Bangladesh. He qualified with Master of Architecture in Landscape from the University of Sheffield, UK in 2004. In 2003 he followed a postgraduate course in 'Organized Self-help Housing, Planning and Management' organized by Lund University, Sweden and FUPROVI, Costa Rica.





## M.H. Mohamed Husni

*Regional Coordinator for Asia, Commonwealth Youth Climate Change Network*

Email: husni.commonwealth@gmail.com

Mohamed Husni, originally from Sri Lanka, is a passionate environmental advocate focused on activism and sustainable development with more than 10 years of extensive experience in youth development and policy-work both locally and internationally. He was a British Council International Climate Champion and Global Changemaker in 2011. He also worked for UN Volunteers as full time national specialist based in Sri Lanka focusing on Youth, Volunteerism and Post-2015 development agenda. Mr.Husni served as the Vice Chairperson (Inclusion & Engagement) of first ever Commonwealth Youth Council from 2013-15 with a portfolio of 53 countries. He co-chaired the 10th Commonwealth Youth Forum held in parallel to CHOGM 2015.

## Madan Prasad Pariyar

*Programme Development and M&E Director, iDE Nepal*

Email: mpariyar@idenepal.org

Mr. Madan Prasad Pariyar is the Programme Development and M&E Director of iDE. He is an agricultural engineer with a specialization in natural resource management. He held senior positions with the government and independent agencies including being the General Manager of for the Agricultural Tools Factory and Udayapur Cement Industries, leading the independent High Level ICT Commission. He also served as the Director of the World Bank / GON Poverty Alleviation Program and as Chairperson of the National Commission for State Restructuring.

*iDE is a family of organizations, including iDE USA, UK, and Canada, dedicated to market development to increase smallholder incomes.*



## Maiumuna Ahmad

*Chief Executive Officer and Founder, Teach for Bangladesh*

Email:maimuna@teachforbangladesh.org

Ms. Maimuna Ahmad is a Bangladeshi-American social entrepreneur, and the founder and CEO of Teach For Bangladesh (TFB), a startup non-profit organization working to reduce educational disparity in Bangladesh. Maimuna holds a BA in International Relations from Mount Holyoke College and a MA in Teaching from American University. She was inspired by her own experience as a mathematics teacher in a public high school in inner-city Washington D.C. through Teach For America.

*Teach For Bangladesh is a nationwide movement of exceptional university graduates and young professionals who are committed to expanding educational opportunity for all children in Bangladesh, starting with a two-year professional fellowship teaching in high-need communities.*



## Maria May

*Senior Programme Manager, Microfinance and Social Innovation Lab, BRAC*

Email: maria.a@brac.net

Ms. Maria A. May is a senior program manager at BRAC, based in Dhaka, Bangladesh. She leads the Social Innovation Lab and the Microfinance Programme's Research & Development Unit. Prior to joining BRAC in 2011, she helped establish Harvard's Global Health Delivery Project with a focus on strategy and scale up. She completed a fellowship with the New York State Department of Health and served as Executive Director of Improvehealthcare.org. Ms. May has consulted for the Harvard South Asia Institute, Brookings Institution, and Teach with Stories. She is a co-author of Making Tuberculosis History: Community-based Solutions for Millions and several teaching cases on global health published by Harvard Business Publishing.







## Michael Kellogg

*Asia Microfinance Development Manager, Visionfund International*

Email: michael\_kellogg@wvi.org

Mr. Michael Kellogg is the Asia Microfinance Development Manager for VisionFund International. Mr.Kellogg also led an innovative microfinance project to support client recovery following Typhoon Haiyan in the Philippines. Previously, he served as COO in VisionFund’s Mongolia Microfinance Institution, and worked in management consulting advising numerous Global 500 clients.

Mr.Kellogg holds a degree in Industrial Technology from California Polytechnic University. He is also an enthusiastic traveller, who has lived in eight countries and visited every inhabited continent. Currently he resides in the Philippines with his wife, Juri, who also has a career in development and shares his passion to support those who seek to lift themselves out of poverty.

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## Muhammad Musa

*Executive Director, BRAC*

Email:musa.m@brac.net

Dr. Muhammad Musa is the executive director of BRAC. He has an extensive background in leading humanitarian, social development, and public health organisations at international, cross-cultural settings. A medical doctor and a public health specialist, he has specialised training in maternal and child nutrition, and disaster management. Before joining BRAC, he worked for 32 years with CARE International as one of its senior international management professionals. He spent 20 of those years working in Ethiopia, Uganda, Sudan, Tanzania, Thailand, India, Bangladesh and Asia region.



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## Nobonita Chowdhury

*Journalist*

Email: nobonita.chowdhury@gmail.com

Ms.Nobonita Chowdhury has studied law and has been involved with journalism for almost 20 years. She is a law graduate of University of Dhaka and did her MA in Human Rights Law at the SOAS, University of London. Ms.Chowdhury worked as a journalist in leading electronic and print media organisations, including Ekattor Television and BBC World Service, in Bangladesh and the UK. These experiences have helped her master a strong ability to find, absorb and prioritise complex information from many different sources and present them to the target audience in the most effective form to achieve highest possible impact.



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## Parul Agarwal

*Associate Director, Financial Inclusion, Financial Inclusion Centre for Microfinance*

Email: parul.agarwal@ifmr.ac.in

Ms. Parul Agarwal heads and manages IFMR-LEAD’s portfolio in the space of financial inclusion. She is involved in designing and setting up experimental and quasi-experimental evaluations. These include evaluations of government programs, programs by development institutions and innovative products, services and delivery channels. She is also engaged in policy research and outreach on the subject. Her research interests are labour mobility, product innovation and digital financial services. She is a co-investigator in some of the related studies at IFMR-LEAD in Nepal, Bangladesh and various parts of India.

*IFMR LEAD is a non-profit research organization conducting high-quality scalable action research and outreach in development economics and finance.*







## Reaz Ahmad

*Assignment Editor- The Daily Star*  
Email- reazahmed@yahoo.com

Mr. Reaz Ahmad is currently serving as Assignment Editor of The Daily Star. He is a career-journalist and has worked both in print and broadcast media for nearly three decades. Besides journalism, he had a brief stint with the UNDP serving as its communication lead for one of the world's largest photo-voter ID card project. Mr. Ahmad also worked a couple of years in the field of development communication in various capacities.

A Cochran Fellow of the USDA, Mr. Ahmad has his specialization in agriculture journalism.

He obtained his B.A. and M.A. degrees in Mass Communication and Journalism from University of Dhaka and teaches in several premier universities in the country.

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## Richard Lace

*Country Director, BBC Media Action Bangladesh*  
Email: richard.lace@bd.bbcmmediaaction.org

Mr. Richard Lace heads BBC Media Action in Bangladesh, leading a team of local and international staff delivering television, radio, online and inter-personal communication outputs to help improve health, governance and disaster preparedness across the country. He has extensive experience in using media to develop individuals and achieve social change; working on multi-media projects engaging young people across Africa, Asia, Europe and South America as well as running one of the leading community radio projects in the UK.

*BBC Media Action is the BBC's international development charity. It uses the power of media and communication to help reduce poverty and support people in understanding their rights.*



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## Ritwick Dutta

*Environment Lawyer, Legal Initiative for Forest and Environment*  
Email: ritwickdutta@gmail.com

Mr. Ritwick Dutta is an Environmental Lawyer & Managing Trustee, Legal Initiative for Forest and Environment. He has focused exclusively on environmental litigation and has supported communities, civil society groups and affected citizens in bringing environmental issues before the Court. His principle focus is the National Green Tribunal where he also serves as the Secretary of the National Green Tribunal Bar Association. Mr. Dutta is an Ashoka Fellow and is the recipient of the Carl Zeiss Roll of Honour 2005, The Sanctuary ABN Amro Award 2007, the NDTV Green Hero Award 2010, the Balipura Foundation Award 2015. He has authored 13 books on environmental law.

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## Sadaf Saaz Siddiqui

*Director, Sidko Apparels Ltd.*  
Email: sadafsaaz@gmail.com

Ms. Sadaf Saaz Siddiqi is a Director at Sidko Limited, a Bangladeshi garment exporter. She is also one of Bangladesh's leading English poets. Her recent publication, Sari Reams, offers a poignant glimpse of Bangladesh's life, covering a range of topics. She is also actively involved with NariPokkho, a women's activist organisation that works on combating violence against women, and recently is involved with rehabilitation of rape survivors from the 1971 war.

*Sidko Apparels Ltd. is an Apparel and Fashion company located in Gulshan North C/A, Dhaka.*





## Sangita Rayamajhi

*Professor, South Asian Foundation for Academic Research*

Email: sangita.rayamajhi@gmail.com

Dr. Sangita Rayamajhi is a Senior Professor and Director of South Asian Foundation for Academic Research (SAFAR). Until June 2015 she was Professor of Literature and Gender Studies at the Asian University for Women, Bangladesh. She was the first woman in Nepal to get her PhD in English Literature and now she specializes in western and non western fictions, women studies and gender and sexuality studies. She acquired her Post Doc. "Cultural Memories as Reflected in Dramaturgy: Nepali and American Women's Experiences" from Pomona College of the Claremont Colleges, Claremont, CA. She is the recipient of National Endowment for the Humanities (NEH) Fellowship, Fulbright Scholarship and Scholar Rescue Fund Fellowship (SRF).

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## Sathya Raghu V Mokkaapati

*CoFounder, CosmosGreen & Kheyti*

Email: sathya@kheyti.com

Mr. Sathya Raghu is a Chartered Accountant turned farmer with a view to making farmers' present annual incomes into monthly incomes. He co-founded CosmosGreen (CG) in India in 2011, which works towards improving production practices and building market support for India small farmers, by using safe farming and farmer producer organisations as tools. CG worked with close to 1500 farmers. In 2015, he was appointed as board member of state level farmer producer organization, which has an extended network of one Million farmers and he plays an active role in its management. In 2015, he Cofounded Kheyti.



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## Shammi Shawkat Quddus

*Graduate Student, Harvard Kennedy School and Stanford Graduate School of Business*

Email: shammi\_quddus@hks16.harvard.edu

Ms. Shammi Quddus is a dual degree candidate for a Masters in Public Administration in International Development (MPA/IID) at Harvard Kennedy School and an MBA at Stanford Graduate School of Business. She also works on the Research Transparency team at MIT's Jameel Poverty Action Lab. She previously worked in the for-profit social enterprise sector in Bangladesh. As General Manager of WaterHealth Bangladesh, a clean drinking water company, she was responsible for the launch and marketing of commercial water centers in rural areas. As Head of Business Development for Jeeon, she helped launch a cellphone-based healthcare delivery platform that connects rural patients to doctors in the cities.



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## Shankar Paudel

*Executive Director, Rupantaran/Rupantaran Nepal*

Email: shankar.rupantaran@gmail.com

Mr. Shankar Paudel is leading Rupantaran, a National NGO that has been implementing various projects around climate change, adaptation, inclusive economic growth, and governance. Mr.Paudel was born in 1973 and is fluent in Nepali, English and Hindi. He worked in various parts of Nepal and also in Meghalaya, India. He completed his formal education from Nepal, Netherlands and the UK.

*The mission of Rupantaran is to transform people's lives and living by mobilising and managing resources, promoting social justice and nurturing collaboration. It envisions a transformation in natural resources, resource users and resource institutions through knowledge, actions and relationships.*





## Shashanka Saadi

*Head of Emergency Response Programme, BRAC International*

Email: shashanka.saadi@brac.net

Mr. Shashanka Saadi has been working in the fields of Resilience, Climate Adaptation and Disaster Risk Management in South and Southeast Asia for over 15 years. Recently he worked with WaterAid as Emergency Response Adviser in Nepal after devastating earthquakes to develop Disaster Resilient WASH Recovery programmes. Prior, he was the Director at Center for Research on Development & Market (CRDM), Conflict & Emergency Adviser in Action Aid International and Project Manager-Team Leader in UNDP Bangladesh. He has also worked for Action Aid and Care Bangladesh in various capacities in country and abroad.



## Shiraz Akhtar Wajih

*President, Gorakhpur Environmental Action Group*

EMAIL: geag@vsnl.com

Mr. Shiraz Akhtar Wajih founded Gorakhpur Environmental Action Group (GEAG) in 1975 with a group of research students after completing his PhD in Ecology. GEAG works primarily on ecological agriculture, livelihoods and rights of small-marginal and women farmers, and Disaster and Climate Change Resilience. He worked as an Associate Professor in Gorakhpur University College and also works on several government and professional sector boards and committees. He has published more than 80 research papers and reports.



## Sir Fazle Hasan Abed

*Founder and Chairperson, BRAC*

Email: abed.fh@brac.net

Sir Fazle Hasan Abed is the founder and chairperson of BRAC (formerly Bangladesh Rural Advancement Committee) an international development organization based in Bangladesh dedicated to ending poverty. Under his leadership, BRAC grew to become the largest non-governmental organization in the world, reaching 138 million people. Sir Fazle has received numerous national and international awards for his achievements, including the World Food Prize (2015), Open Society Prize (2013), the WISE Prize for Education (2011), Conrad Hilton Foundation Humanitarian Award (2009), the David Rockefeller Bridging Leadership Award (2008), the Inaugural Clinton Global Citizen Award (2007), the Henry R. Kravis Prize in Leadership (2007), and the Gates Award for Global Health (2004) among others.



## Syeda Rizwana Hasan

*Chief Executive, Bangladesh Environment Lawyers Association, (BELA)*

Email: rizwana1968@gmail.com

Ms. Syeda Rizwana Hasan is an enrolled lawyer with the Supreme Court of Bangladesh. She is the Chief Executive of Bangladesh Environmental Lawyers Association (BELA) where she works to promote environmental justice.

Ms. Hasan has received numerous awards and recognition including the 'Annanya Top Ten Award.' She is one of the first five South Asian women to receive the 'Celebrating Womenhood' award given by Creative Statement and South Asia Partnership based in Nepal. Ms. Hasan received the prestigious 2009 Goldman Environmental Prize and was listed as one of the 40 Environmental Heroes of the World by TIME magazine. Ms. Hasan was also awarded with the Ramon Magsaysay Award in 2012.







### Taufiqur Rahman

*Director, Dairy and Food Enterprises, BRAC*

Email: [taufiqur.rahman@brac.net](mailto:taufiqur.rahman@brac.net)

Mr. Taufiqur Rahman is the director of BRAC's dairy and food enterprises. He oversees BRAC Dairy, BRAC Chicken and BRAC Artificial Insemination. Prior to joining BRAC, Mr. Rahman was the corporate head of marketing of Rahimafrooz (Bangladesh) Ltd. He is a veteran business management professional and a reputed business consultant with over 18 years of experience in FMCG and consumer durable industries. Mr. Rahman started his career as a management trainee of Toyota Motors (USA) Inc in 1996. He has also worked at Mutual Group, COMMUNIC Group, Bengal Meat Processing Industries Ltd and Rahimafrooz (Bangladesh) Ltd.

Mr. Rahman has an MBA from the University of New Haven and BBA from the University of Mississippi, USA.

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### Tom Nettleton

*First Secretary, Development Cooperation of the Commonwealth of Australia to the People's Republic Bangladesh*

Email: [tom.nettleton@dfat.gov.au](mailto:tom.nettleton@dfat.gov.au)

Mr. Tom Nettleton has worked in development for 15 years, for the last 10 with the Australian Government. Beginning in Pakistan and Afghanistan in 2002, he worked with a Danish NGO, and developed first-hand experience supporting communities to develop their economic resilience and food security. Mr. Nettleton moved to Papua New Guinea with the Australian aid program in 2008 and focused on strengthening sub-national governance structures to support service delivery at the provincial level. In Dhaka, his work involves engagement with partners including BRAC and the Bangladesh Government to broaden the participation of Bangladesh's population in the country's extraordinary economic growth.



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### Varad Pande

*Associate Partner and Head of Financial Inclusion, Dalberg Global Development Advisors*

Email: [Varadpande@gmail.com](mailto:Varadpande@gmail.com)

Mr. Varad Pande is the Associate Partner and Head of Financial Inclusion at Dalberg Global Development Advisors. He is a public policy and social sector professional with experience as a Ministerial Advisor, multilateral institutions and strategy consulting. He has experience in governance, financial inclusion sanitation, rural development and climate change. Before coming to Dalberg, Mr. Pande was Special Advisor to India's Minister for Rural Development and Environment and Forests, where he drove the agenda on sustainable livelihoods, water and sanitation, financial inclusion, environment, and climate change.

*Dalberg is a strategic advisory firm dedicated to global development. Their mission is to mobilize effective responses to the world's most pressing issues.*



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### Vishnu Swaminathan

*Leader - South Asia & Global Leadership Group Member, Ashoka - Innovators for the Public*

Email: [vram@ashoka.org](mailto:vram@ashoka.org)

Mr. Vishnu Swaminathan joined Ashoka – one of the largest networks of social entrepreneurs worldwide – with more than 14 years of experience as an entrepreneur and innovator. He started two IT companies in Singapore focused on financial transactions and animation technology. Following acquisition of one of the companies, he moved to India and headed a leadership school based in Pune, where he created an independent Centre for Social Development. Mr. Swaminathan has worked on large government projects, donating the surplus to fund citizen sector organisations. Most recently he ran an assignment with the National Innovation Foundation, a government-sponsored organization working on grassroots innovation in India.





# Further reading



scaling  
resilience

Savar March 22-24 2016



# 6 ways Bangladesh is fighting climate change

Anika Noor



Bangladesh is on the verge of losing 17 per cent of its land in the next 40 years. Climate change is an everyday concern in this tiny delta, and it affects everyone of us- from school children in rural Bangladesh who see their schools submerged in rising waters every monsoon, to farmers who are constantly adapting to new practices to survive.

Take a look at some of the ways that BRAC enables communities to respond to climate change.

## 1. Resilient architecture

In areas prone to cyclones and flash floods, BRAC built disaster-resilient houses and schools. These buildings are designed to function as cyclone shelters. They come equipped with safe drinking water sources and sanitary latrines, which are now maintained by the communities themselves. Besides giving them the ownership, it also unites members of a community to work as one during times of crises.

## 2. Teaching climate change in schools

It is widely asserted that children in poverty will be most affected by climate change in the coming years. We at BRAC understand that children have to be part of the conversation. Environment science was always an important part of BRAC's primary school curriculum. Taking a step further, in 2010, topics such as response to disasters were incorporated in text books of class 1 and above. BRAC's education programme is currently working to include the broader issues of climate change and disaster preparedness in the curriculum in collaboration with the government's National Curriculum and Textbook Board.

## 3. Making water safe

Drinkable water becomes hard to find in the wake of any natural calamity. Sutarkhali, the coastal region battered by the cyclone Aila in 2009 still sees extreme shortage of fresh water sources. Pond sand



filters are an effective and low-cost option in such places where high salinity is a major problem. These filters require regular maintenance and cleaning, all of which involve money and labour. In BRAC's programme areas, a water management committee oversees each pond sand filter, encouraging participation from the community to help keep the filters functioning.

#### 4. Harnessing sunshine

Water in the southern coastal regions of Khulna is high in salinity, making safe drinking water scarce. The answer? A solar water pump that supports vulnerable villages in these regions, supply safe drinking water by means of a 42,000 piping network. It is the first solar water pump for safe drinking in Bangladesh. The community shares 81 tapping points and is in charge of maintaining the pump. It is a step forward to a sustainable and renewable energy solution.

#### 5. Strengthening women groups

Bangladesh has the highest natural disaster mortality rate in the world, with over half a million people lost to various natural disaster events since 1970. Traditionally disaster responses focus on the tangible needs of survivors, such as shelter, food and emergency medical aid, while overlooking the more intrinsic need to provide trauma support. Women suffer most from the effects of climate change as they are the ones who stay back to manage families amidst great difficulties while the men leave homes to look for better opportunities. BRAC has been engaging in various mental health interventions in the last few years. Today, there is an army of 19,000 women across disaster-prone communities, trained in psychosocial counselling to improve coping abilities to stress, discrimination and trauma.

#### 6. Embracing new practices

Every year agricultural lands in Bangladesh shrink by 1 per cent due to climate change. To ensure food security, it is imperative that farmers are keep up with adaptive practices. Pond dyke farming, a special ecosystem that consists of a dyke of farmland and a fishpond, where elements from water and land complement each other, is being implemented in full scale. Farmers receive training on choosing suitable and sustainable crop and fish to grow each season. Farmers are also oriented with natural systems of pest control such as sex pheromone traps, bird stands, light traps and other eco-friendly methods.

Efficient land usage is introduced according to each region. Climate-resilient crops of short-duration varieties, high-yield varieties, inundation resistant and saline tolerant are introduced suited for vulnerable regions. Summer tomatoes, maize and sunflowers have been made popular among farmers to cope with water scarcity and uncertain climate scenarios across the country.

Anika Noor is a deputy manager at BRAC Communications.

# Finance for flood-hit families: Reducing risk and raising resilience

Monirul Hoque and Isabel Whisson



“Every year we witness the Brahmaputra’s destruction and helplessly watch our crops wash away.”

Tahura Begum, a BRAC microfinance borrower, lives with her husband and two sons in Jamalpur, northern Bangladesh. Her house and rice field sit just beside the Brahmaputra River and flooding is a regular occurrence in their lives. Though they work hard farming the field, this natural shock persistently pushes them back. “During those days, my husband goes to Dhaka to work as a rickshaw puller and we struggle. To start cultivating again after the floods we would borrow from a mohajon (local money lender).”

In rural Bangladesh, where 700 rivers and tributaries carve through the country, communities living near riverbanks face the risk of flooding every year. Emergencies like floods are tough to forecast, so all that farming families can do is continue to cultivate and pray for a forgiving monsoon. If it does flood, they often lose their investment and then have limited financial options for starting again. Without access to liquidity, some like Tahura, resort to borrowing high interest loans from informal moneylenders, selling assets or migrating elsewhere. It is not just farmers affected by such disasters. Disrupted crop yields in rural areas affect entire local economies, for example if farming households have to reduce spending, shopkeepers’ earnings in the area are also affected.

The issue of re-financing in the face of emergencies and natural disasters present a common and increasingly prevalent challenge for microfinance providers. On the one hand our mission is to support existing clients through hardship; on the other we have a responsibility to ensure that those made weak and vulnerable do not become burdened by additional debt. This can be a win-win for both clients and providers— clients that receive the right support will have fewer missed payments, and tend to be loyal to the institution in the long term. The question, then, is how to get it right?

Financial products designed to reduce risk such as crop insurance are yet to catch on in the market, in spite of benefits such as instant coverage and the ability for households to make larger investments securely. BRAC wanted a product that clients would understand and demand, and that could issue finance immediately after clients were hit.

From September to November 2015, BRAC piloted an emergency loan product in six flood-prone



regions of the country. Designed in partnership with the University of California, Berkeley, the product offers pre-approved loans to existing borrowers conditional upon a sufficiently high credit score based on their repayment history.

The pilot seemed to work. Borrowers had a much lower percentage of missed payments, and were much less likely to be behind on payments than BRAC clients that either chose not to take the additional loan or were not eligible. Among the 271 clients who accepted the loan, over half were repaying ahead of schedule. BRAC also observed a 5 per cent increase in savings deposits among the emergency loan borrowers, compared to just 1 per cent for non-borrowers.

Not everyone who was eligible chose to take the loan. Most who declined said they didn't need it, with a quarter citing fears of being unable to pay. However those hit hardest by the floods- mostly agricultural workers, and clients that experienced significant damage to their homes were much more likely to take the loan- suggesting that, of those eligible, the service was reaching the people who needed it most.

A large majority of the loans were used for agriculture and other income-generating activities, suggesting that there are productive investments to be made after a flood. Among them, Tahura Begum used her loan of USD 128 to purchase seeds and fertilizers to re-nurture her farm and start earning again. Yet, resilience against disaster is not just one's ability to maintain or re-build one's income. It is the ability of a household to bounce back and continue life as normal. While loans were mainly used for farming or business, a third of loans went towards housing repairs, education or general household consumption.

Our positive findings from the emergency loan pilot point to a reliable pre-approval system, and potential scope for future iterations of the product to pre-approve loans for more clients, whose credit histories were not as strong as 2015 borrowers.

Tahura Begum's experience was one of the 271 examples of how re-financing, if carefully designed, can help households to recover from financial shocks caused by a natural disaster. For disaster prone countries like Bangladesh models such as these can play an important role in helping to reduce risk and raise resilience for low-income families exposed to environmental disasters across the country.

### Key findings:

- Around **30%** of active clients in flood-prone branches were eligible for emergency loans
- **20%** of eligible clients took the loan. 60% of those who declined said they did not need it; **25%** were concerned they could not repay
- **6%** of repayments of regular loans were missed by emergency loan borrowers, compared with **17%** for non-borrowers, and **19%** for ineligible borrowers
- While **40%** of emergency loan clients sought additional funding, this was usually from family at **0-1%** interest. This is compared to **37%** of eligible non-borrowers, and **55%** of ineligible clients who took out larger loans from moneylenders at annual rates that averaged over **30%**, and were as high as **120%**

Monirul Hoque is a management professional at BRAC's microfinance programme. Isabel Whisson is communications and knowledge management officer at the microfinance programme.

# No lines, no relief camp: 4 lessons on using mobile money for post-flood relief

Lamia Shams and Maria A May



Bangladesh is considered to be one of the world's most vulnerable countries to natural hazards and climate change. For the northwestern region of the country, this means intensification of annual floods. In July and August of last year, excessive rainfall in that area led to floods that affected over one million people. Crops and seedbeds were washed away, eliminating incomes for many farmers and day labourers. Lack of clean water sources led to outbreaks of diarrhea, especially for displaced families. For many poor households, one of the post-flood priorities was replanting their crops to mitigate economic losses as much as possible.

After disasters, the government and many NGOs mobilise financial and in-kind support for affected areas. In most cases, the relief, provided both as cash and as in-kind support, is primarily for food, shelter, health, water, sanitation and hygiene. Historically BRAC has participated in disaster response, often distributing relief through its local staff and community health workers. This time, inspired by international experiences and the learnings from its internal Innovation Fund for Mobile Money, it decided to distribute the emergency relief through mobile money. The objective was to evaluate whether mobile money was an efficient and convenient channel for disaster relief transfers and build a system that could be used for large-scale disaster response.

BRAC disbursed a total of USD 39,000 to 3,000 affected families. The USD 13 that each household received was meant to provide the required capital to cultivate a short-cycle crop like mustard. To allow for comparison, 2,200 of these families received the money through bKash, a subsidiary of BRAC Bank and remaining 800 received cash. Most of the relief funds were given to marginalised families by leveraging BRAC's polli shomaj, a grassroots women's platform. While many marginalised families had mobile phones, most had to open up a bKash account to receive the funds. Frontline BRAC staff was available to support them through the registration process and help them learn to navigate the bKash menu.

Recently we visited several families who had received the relief over mobile money to talk to them about



their experiences, as well as to hear from the local BRAC staff about their experiences.

In general, having cash in hand enabled families to start livelihood activities right away. Almost all of them opted for agricultural investments, such as rice crops or vegetables. Some families reported that they've already earned profits of up to USD 64.

In terms of their experiences with receiving the relief via mobile phone, these discussions generated four major insights:

- o Recipients enjoyed the convenience of receiving money by mobile: Collecting money from a relief distribution centre after a flood or a disaster can be difficult and time-consuming. Women in particular mentioned their discomfort for waiting in line for hours to receive money. The mobile transfer was perceived as easy and secure. In most cases, the victims had to only travel to a nearby shop to collect money from the agent which was relatively easy.
- o Distributing cash is stressful for field staff: Frontline workers were tremendously relieved to escape the responsibility of transferring relief directly. One field officer in Kurigram, Mohammad Monirul Islam shared, "Previously, I was the one responsible to hand over money safely to the families, which required intense effort from my end. Now, I just have to make people understand how to operate bKash menu smoothly." Also, as the whole process was automated, the monitoring was quite simple. Staff didn't have to get involved with administrative tasks of dealing with cash, which in turn gave them the opportunity to do more programmatic work like assessing needs and supporting progress.
- o Post-flood, many continued to use mobile money: Though the transfer from BRAC happened just once, it seemed to activate latent demand for many households. Rabeya, a polli shomaj leader in Kurigram said, "I can now receive money from my husband who works in another district through mobile, instead of waiting for him to come home". She says that these mobile transfers have made it much easier to manage the family finances.
- o Low levels of literacy makes mobile money more challenging: Women with no or very limited education in particular reported difficulties understanding the bKash interface. Some of them forgot their PIN numbers and had to visit the bKash customer care office in the town. Others felt that they needed support from BRAC staff even to cash out from an agent.

Overall, the pilot demonstrates that mobile money could greatly enhance post-disaster response and help affected households access capital quickly and conveniently. In this case, most of the wallet registration and financial education took place after the disaster; ideally, building these activities into regular community development could be seen as a form of resilience strengthening.

Lamia Shams is assistant manager at BRAC Social Innovation Lab.  
Maria A May is senior programme manager for BRAC Social Innovation Lab and BRAC Microfinance.



