GIRL SUMMIT ANNIVERSARY

One year on in Bangladesh

Let's continue to work together, so that children don't miss out on fulfilling their dreams

SARAH COOKE and EDOUARD BEIGBEDER

II I loved going to school. There, I used to play hide and seek and other fun games with my friends. I want to go to school again and become a teacher," said a 15-year old child bride.

On July 22 last year, the UK government and UNICEF co-hosted Girl Summit 2014 to help rally a global movement to end female genital mutilation (FGM) and child, early and forced marriage (CEFM) for all girls everywhere within a generation. Over 700 people attended the event from over 50 countries. Participants included civil society, faith representatives, government ministers, private sector survivors and young people. Progress has continued in the year since the Summit and now over 180 commitments have been made to end FGM and CEFM.

This July, we are celebrating the one year anniversary of the Girl Summit. On the eve of the event, the Government of Bangladesh must be congratulated for making progress in improving the lives of women and girls, not least through improving gender parity in primary school and reducing infant and maternal mortality.

As a growing Asian nation, Bangladesh has made progress in many areas related to gender, diversity and development. It is one of the first countries to have ratified the Convention on the Elimination of All Forms of Discrimination against Women (CEDAW) with some reservations and the International Convention on the Elimination of All Forms of Racial Discrimination.

Today, several of Bangladesh's achievements in reducing gender disparities are noteworthy: the number of women dying in childbirth has reduced from 400 to 240 per 100,000 live births in the last decade (State Of World Children 2014); education was made free up to Grade 12 for girls outside the metropolitan area from January 2002, promoting girls' education and reducing drop-outs; laws have been legislated to combat violence against women, including the Domestic Violence (Prevention and Protection) Act of 2010; and the country introduced the National Women Development Policy, the Child Policy in 2011 and the Children's Act 2013.

Despite these achievements, some major challenges still need to be addressed as gender inequity remains pervasive. The prevalence of child marriage continues to be very high with over half of the women between the age of 20-24 marrying before their 18th birthday and almost one in five marrying before 15 (UNICEF, MICS, 2013). Child marriage must be tackled by every nation as it is against the best interests of the child. It is also counter-productive to a country's long term growth and development as these child brides and grooms are often denied opportunities for secondary education and left without adequate opportunities to benefit from and contribute to their country's economic growth. But there is some positive news. Research and data indicate that child marriage in Bangladesh is on a downward trend.

This decline illustrates that Bangladesh is making some good progress on child marriage. It is the right moment to accelerate that trend, by establishing and enforcing a strong legal framework, implementing appropriate policies and raising awareness to mobilise communities behind the effort to end child marriage. An end to child marriage is feasible as the Government of Bangladesh moves towards achieving middle income status and ensuring development opportunities for all of its people. Social norms are beginning to change and more young girls are becoming empowered, understanding the importance of education and skills and increasingly encouraged, as they reach adulthood, to participate in productive economic activity.

It is, therefore, encouraging that the government is currently placing a large focus on tackling child marriage and we were pleased that the Honourable Prime Minister Sheikh Hasina was able to participate in the UK Girl Summit. She committed Bangladesh to end marriage for children under the age of 15 by 2021 and

by 2041 for those under 18. She also pledged to reduce the number of girls getting married between 15 and 18 by more than one-third by 2021. Bangladesh's highlevel engagement and subsequently hosting its own Girl Summit in October 2014 has paved the way for development partners to explore more targeted solutions around this issue.

the 1929 Child Marriage Restraint Act and maintain the minimum age of marriage at 18 is an important development. Similarly, the drafting of a National Plan of Action to End Child Marriage demonstrates that along with its neighbours with similar sociocultural contexts, such as Bhutan, India, Maldives, Nepal and Sri Lanka, Bangladesh too is moving ahead on its child rights and gender equality agenda.

Finally, as a vibrant nation with 39 percent of the population under 18, Bangladesh has huge opportunities. To fulfil this potential, the country requires a healthy, educated and strong workforce. It is estimated that nearly 50 percent of Bangladesh's workforce comprises of women - an asset for the nation.

Young Bangladeshi girls must be provided with life skills, relevant education, vocational training and access to health care to ensure that they can positively contribute to the country's economy and their own future. If a large segment of this productive young population is lost to child marriage and early motherhood, the country will lose out on a substantial workforce who could contribute to the country's development.

As partners of the Government of Bangladesh, on the first anniversary of Girl Summit, we reiterate the importance of investing in girls and boys, particularly focusing on tackling critical child rights violations such as child marriage, helping to ensure a rights-based and more equitable Bangladesh where children have better life chances.

The writers are Country Representative, DFID-Bangladesh, and Representative, UNICEF Bangladesh, respectively.

The government's present commitment to reform

OF CLIMATE **CHANGE**

POLITICS

SALEEMUL HUQ

France is going to host the 21st Conference of Parties (COP21) of the United Nations Convention on Climate Change (UNFCCC) in Paris from November 30 to December 11, where it is expected that a new climate change agreement will be signed. It is hoped that the agreement will be ambitious and legally

HE Government of

binding. Such an agreement was attempted at COP15 some years ago in Copenhagen which ended in failure. Hence, the Government of France is keen not to have another failure in Paris this year and is taking a number of proactive steps to engage with other countries and stakeholders to shape a positive outcome at COP21 in December.

PARIS CLIMATE SUMMIT

Agenda for

adaptation solutions

One way that France is doing this is by appointing a set of Special Climate Change envoys to visit other countries and listen to their concerns in order to be able to ensure that all countries' views are reflected in the final Paris agreement. Bangladesh will be one of the countries to be visited.

Another set of activities is to host a series of global meetings of key stakeholders in Paris in the run up to COP21 to get commitments from different stakeholders to tackle climate change and thus provide positive support and momentum to the governments who will be negotiating the final agreement in Paris in December.

Thus, the Government of France has already hosted meetings of private sector and business leaders last month, along with leaders of cities and sub-regions within countries that are also being proactive. Earlier this month they hosted, together with the United Nations Educational and Scientific and Cultural Organisation (UNESCO), which is headquartered in Paris, a major science conference - Our Common Future Under Climate Change - which attracted over two thousand scientists.

I was privileged to be invited to give the keynote speech on "Adaptation Solutions" at the conference and will share some reflections of the current state of the science and scientists views on climate change.

It has only been a few months since the fifth assessment report of the Intergovernmental Panel on Climate Change (IPCC) was published and already the state of scientific knowledge has moved forward in a way that many more scientists are willing to make bold statements about the need to take drastic actions to curtail emission of greenhouse gases to ensure that the global temperature does not exceed 2 degrees Celsius (at the moment it is headed for 4 to 5 degrees).

This will require a very strict limit to be placed on all fossil fuels with the greatest restrictions on coal, which is the worst of the three fossil fuels (coal, oil and natural gas), in terms of emission of greenhouse gases. Hence, it is very important to stop using coal as quickly as possible. The scientific community has finally overcome its reluctance to make strong prescriptive recommendations but the situation is so dire that many leading scientists have come out with very bold statements to this effect.

The second major development in the scientific field has been to move away from simply describing the problem in greater detail in terms of impacts and vulnerabilities; we have now moved from what is sometimes called the "problem space" to the "solution space". This means moving to adaptation science (solution space) to deal with impacts and vulnerabilities (problem space).

This is now happening at a fast rate in both developing countries (who started earlier) and developed countries. This presents an opportunity for scientists in developed countries to collaborate with scientists in developing countries to coproduce knowledge on adaptation solutions as quickly as possible. This has already started and needs to be accelerated.

Finally, Bangladesh has a significant role to play in this global co-production of adaptation solutions knowledge as the Bangladeshi scientific community has already gone up a steep knowledge curve in terms of adaptation solutions, along with policymakers and practitioners.

Bangladesh can, thus, share its experiential knowledge on adaptation with the rest of the world, both South-to-South as well as South-to-North.

The writer is Director of the International Centre for Climate Change and Development at Independent University, Bangladesh. Email: Saleemul.huq@iled.org

REVOLUTIONISING ELECTRONICS

Bangladeshi scientist makes waves with his ground-breaking discovery

ABDUL MATIN

T is said that Newton formulated the laws of motion by observing an apple that had fallen from a tree. It now appears that another apple is falling again. A recent discovery of a massless particle, called Weyl fermion, by an international research team led by Bangladeshi scientist Prof. M. Zahid Hasan of Princeton University may revolutionise electronics and may make computers and communications much faster and more efficient. The team included numerous researchers from Princeton's Department of Physics, including graduate students Ilya Belopolski and Daniel Sanchez, a postdoctoral research associate Guang Bian and associate research scholar Hao Zheng. The discovery was reported in a paper published online by Science on July 16.

The existence of the particle was predicted in 1929 by German mathematician and physicist Hermann Weyl who was a colleague of Albert Einstein at the Institute for Advanced Study at Princeton University. The particle remained elusive for 85 years. "The hunt for the Weyl fermion began in the earliest days of quantum theory when physicists first realised that their equations implied the existence of antimatter counterparts to commonly known particles such as electrons," Hasan said. "People figured that although Weyl's theory was not applicable to relativity or neutrinos, it is the most basic form of fermion and had all other kinds of weird and beautiful properties that could be useful," he said. "After more than 80 years, we found that this fermion was already there, waiting. It is the most basic building block of all electrons....It is exciting that we could finally make it come out following Weyl's 1929 theoretical recipe." He



Prof. M Zahid Hasan

added. We do not know if he and his team shouted, "Eureka! Eureka!"

The researchers used an asymmetrical tantalum arsenide, a synthetic metallic crystal that was cooled at near absolute zero temperature and tested with highenergy accelerator-based photon beams at the Lawrence Berkeley National Laboratory in California. "Once fired through the crystal, the beams' shape, size and direction indicated the presence of the long-elusive Weyl fermion." The synthetic crystal was designed by the team in collaboration with researchers at the Collaborative Innovation Center of Quantum Matter in Beijing and at the National Taiwan University.

Present day electronics is based on the movement of electrons which are tiny, negatively charged subatomic particles. An electron is so small that it has a mass that is about 1/1836 of that of a proton, another subatomic particle that is positively charged. A proton is also a small particle - so small that about 1.673 billion billion protons together

will have a mass of 1 kg! This comparison gives an idea about the mass of an electron. Even with its tiny mass, an electron is scattered by collision with other particles during movement. The researchers found that "Weyl fermions can be used to create massless electrons that move very quickly with no backscattering, wherein electrons are lost when they collide with an obstruction. In electronics, backscattering hinders efficiency and generates heat. Weyl electrons simply move through and around roadblocks," Hasan said. "It's like they have their own GPS and steer themselves without scattering.... They will move and move only in one direction... and never come to an end because they just tunnel through. These are very fast electrons that behave like unidirectional light beams and can be used for new types of quantum computing," he added.

Hasan has also added that the physics of the Weyl fermion is so "strange" that there could be many things that arise from this particle that is beyond our

imagination. According to the theory of relativity, no particle with any mass can reach the speed of light. Weyl fermions being massless are not likely to be bound by Einstein's theory of relativity. Weyl, therefore, suggested his fermion as an alternative to Albert Einstein's theory of relativity.

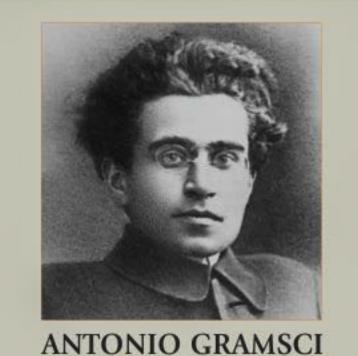
It is postulated that future electronics may be based on Weyl fermions instead of present day electrons. I wonder if the term electronics will also change to fermionics! The unobstructed free movement of Weyl fermions will make computers and communications much faster and more efficient.

Ashvin Vishwanath, a professor of physics at the University of California-Berkeley who was not involved in the study, commented that even though it might be too early to understand the "practical implications" of this discovery, it should be noted that "Weyl materials are direct 3-D electronic analogs of graphene, which is being seriously studied for potential applications."

The world's scientific community is very excited about the recent discovery of Prof M. Zahid Hasan and his team. Hasan was a brilliant student and had his early schooling in Bangladesh. He completed an MS from Stanford University in 2000 and a Ph.D. from Princeton University in 2002. Over a 100 papers written by him have been published in respectable journals, including over 40 papers in Nature, Science and Physical Review, and earned numerous awards. Nobody should be surprised if his recent discovery earns him the Nobel Prize in Physics in the near future.

As Bangladeshis, we are extremely proud of him.

The writer is a retired nuclear engineer and Dr. Rashid Professor of Bangladesh University of Engineering and Technology (BUET).



(1891-1937)

I'm a pessimist because of intelligence, but an optimist because of will.

CROSSWORD BY THOMAS JOSEPH

42 Casual eatery

Transcend

Old photo

Writer Tan

Like ganders

Limerick peop

Map division

15 Letter before omega

25 Length of some jokes

Boxer Mike

11 White veggies

17 Doled out

21 Lass

20 Buttersquare

24 Surrenders

27 Cobber's cousin

29 Puccini opera

28 Yellowstone sight

38 Physique, in slang

Melody

Mine, of a sort

DOWN

ACROSS

Must, informally

Atomizer's output Poppy yield

Wingding

Bit of change

Pay to play 15

Magic word

16 Secretagent

Braying beast

Egg layer

Having a few

22 Blue hue "Othello" villain

Overthrowing Barbill

Frank McCourt book Neckline shape 34 In recent days

36 Depend

41 Son of Zeus

Handed over Like lambs

Theater feature Starting point

30 Following 31 Ice skate part 35 Gets on 36 Sitarist Shankar

Yesterday's answer METES AGAPE THINKINGCAP WOE AMPEDPOSTS TEASE

BEETLE BAILEY







NOT A

NOTHING

IN HERE



by Mort Walker

MAYBE YOU SHOULD GO ARE YOU SURE? NO.I'M

by Kirkman & Scott ONE MORE) TO BE SAFE. OFF MY TRY?

