The ongoing tragedy: Women's voices from Rana Plaza

ANASTASIA SOLOPOVA

THE collapse of the Rana Plaza building on April 24, 2013, resulted in the deaths of 1,133 people and injury of over 2,500. Women made up around 80% of the dead and injured (*The Age*, June 24). Many are still suffering from the disaster four months later, and some of the women survivors are close to destitution. Little financial relief is available, and most cannot find work. Some have been abandoned by their husbands' families, and with their own families too poor to support them, they are helpless. Furthermore, many of the women factory workers were the sole breadwinners in their families. Their deaths and injuries mean that their dependents now face extreme poverty. These women and girls are virtually powerless. Their lives appear little valued, and their suffering easy to ignore. Despite the national and international outcry about the disaster, these vulnerable survivors are without social or economic support.

Several of the women workers who were injured in the Rana building collapse and can no longer earn a livelihood have been abandoned by their husbands and their in-laws. They are unable to secure help from their own parents or siblings.

Fatema and Farida (pseudonyms) both had this experience. Fatema, 25, started working for the Eva Textiles company at Rana Plaza after her marriage. The dusty, dirty factory made Fatema ill with bronchitis. However, her husband refused to look after her unless she gave him a dowry payment of Tk.3 lakh. He lied to Fatema, telling her the payment was for her 'medical expenses' in an attempt to use her illness to extort money from her. When her husband realised she could not pay, he threw her out of their home, seeing no more use for her. Fatema was inside the factory when it collapsed. She was rescued from the rubble after two days. She tried to seek her husband's help, but as she was by then severely injured on her arms, legs and neck and unable any longer to earn a living, he refused to support her, breaking off all communication. Her own family is too poor to provide support.

Farida, 30, was taken alone to Savar by her aunt-in-law seven days after her marriage. The aunt-in-law forced Farida to give her a dowry payment of Tk.5,000, beat her and threw her out of the house, abandoning her in Savar. Farida started working for the Eva Textiles company in Rana Plaza so she could survive. She managed to contact her mother-in-law, who told her that she would never accept Farida as a daughter and that she would kill her if she ever saw her again. The Rana Plaza tragedy happened a few months later. Farida was trapped inside the factory. Heavy machinery fell on her head and back, severely injuring her and leaving her unable to walk properly, suffering from head pains and blurred eyesight. She was rescued from the rubble after two days. Her in-laws did not contact her and offered no support. Her husband complied with their treatment of her, burning their marriage contract. As with Fatema, Farida's own family is too poor to support her.

Farida and Fatema have both received Tk.10,000 ($128) from the Prime Minister's Fund, as well as Tk.15,000 ($192) and some food packages from foreign companies who used the Rana Plaza complex. This lump-sum payment is wholly insufficient. Today, having survived on this money for four months, Farida and Fatema are unemployed and running out of money. They are scared about the future.

The deaths and injuries of women workers meant that many families lost their main source of income. In the poorest sectors of society, from which garment factory workers come, it is common for women to be the main earners. The jobs which might be available for men from such backgrounds would usually involve hard physical labour, which many of these women are too malnourished to do. Parveen, 19, who died in the collapse, supported a family of nine. With overtime, she was able to earn enough money to feed them all. Her family now has no income. "We have lost everything," said her father, who is too ill to work.

Alisha, another woman, came to the site of the collapse to look for her dead sister's body. Her sister, Rehana, had provided for the whole family including Alisha and her husband, whose farm income is too little for them to live on (*NBC News*, May 25). Shanu is in a similar position. She lost her right leg and badly injured her left leg in the collapse. She is now out of work. "I have a daughter, she is seven, back in my village," she said. "I want her to be educated, but I worry now about how I will be able to provide for her" (*The Age*, June 24). In the rubble of the factory, the dead body of a young, female garment worker was found with a small piece of paper in her hand. She wrote: "Ma and baba, please forgive me. I will not be able to buy medicine for you anymore. Brother, can you look after ma and baba?" (*Common Dreams*, April 29).

Women and girls who were dependent on those who died are another vulnerable group. With their families now penniless, any hopes of getting an education have diminished. Many of them will find that the responsibility of supporting their families now falls on them. Some may become domestic workers, a job in which they are highly vulnerable to abuse and have no legal protection. Some may have to beg. Many will be forced into early marriages by desperate families who can see no way of supporting them.

It is unclear what relief has been made available to date. The prime minister had earlier announced that each injured person and each family of a person who died in the collapse will receive Tk.15 lakh ($19,518) in financial assistance. As of July 25, 2013, 1,016 persons belonging to the families of 777 victims of the Rana Plaza tragedy reportedly received money from the prime minister's relief fund, with 30 injured survivors receiving savings certificates from the same fund (*Financial Express* July, 25). However, concerns remain that the relief effort has not been systematically coordinated. There is no central register detailing payments made and their recipients. Available reports indicate that compensation has not reached all those affected, with many survivors and their families full of anger and disappointment.

Shanaj Begum, a thirty-year-old single mother of two, is almost completely paralysed on her left side. She received Tk.8,500 ($110) as a lump sum pay-off from BGMEA, and "not a single taka" for the 150 hours overtime she worked in April. Shefali Akter is in a similar position. A married mother of two who sustained a head injury in the collapse, she reportedly refused the Tk.6,000 ($78) BGMEA offered her: it would not even cover her medical bills, let alone allow her to feed herself and her family (*Global Post*, May 13).

Families move endlessly between the BGMEA headquarters, the site of Rana Plaza, upazilla headquarters and the National Press Club in search of compensation. Rabeya Akhter, whose sister died in the collapse, said: "I went to the BGMEA head office, the Adhar Chandra High School and the National Press Club to enquire about compensation but found nothing. A woman who lost two sisters said that her relatives regularly make calls to the phone number they were given when they received her sisters' bodies, and receive nothing (*Financial Express*, June 1). Most claimants, illiterate and without knowledge about the compensation process, are in the dark.

On a Monday in August, a group of women gather in a small room in Savar. One woman talks about the brother she lost; another holds up a photo of her dead husband. A 19 year old girl, Kamrun, sits on the bed crying quietly: she was inside when the building collapsed, and still feels scared. An older woman in the room, Minal, is worried about her daughter, who sustained head and leg injuries in the collapse. The day before, Minal went to a protest in Dhaka demanding three months' salary for her daughter from the BGMEA, which she is entitled to receive for termination of employment. Unbelievably, the police beat her with batons, injuring her arms and shoulder (*Daily Star*, August 4). Another young girl in the room, who holds up her Rana Plaza ID card, says she went to the same protest and was also beaten. She is now so hurt she can no longer work. The support given to these women is grossly inadequate, and they have had to face violence in return for demanding help.

The national and international outcry in the immediate aftermath of the disaster meant that, for once, these women's lives seemed to matter, that violations of their dignity were met with the outrage they deserved. But barely four months later, they are again being left to struggle, again being treated as less than human. There is an urgent need for a one stop service for survivors and dependents, preferably conducted through a high-level government agency, to provide adequate redress and rehabilitation including employment and medical assistance. As it is, women scrape out a meager existence from savings, compensation payouts and food packages given by foreign and local companies and organisations. They are using up the money and they cannot find jobs. They live in an increasing state of terror as they slip closer to destitution. It is essential to act urgently to secure these women's rights to life and livelihood.

The writer is studying PPE at Oxford University.

Enzymatic production of gold?

S. ASHRAF AHMED

AS an enzymologist by training and profession, I always tried to glorify enzymes whenever I had a chance. But I was not prepared for this: making gold using enzymes! Enzymes are biocatalysts.

Chemical abbreviation for gold is Au. It is a heavy metal with an atomic mass of 197. Generally heavy metals are toxic to all life forms, including humans (please see *Fishes we eat: Are they free from mercury poison?* DS, April 27, 2010, http://archive.thedailystar.net/newDesign/news-details.php?nid=136026).

There was a time when people believed that a metal such as iron could be converted into gold by a touchstone. This belief was so prevalent that even until late 1900s many literate people of British Bengal went bankrupt by investing their youth and money in experimenting with this method of getting rich. The enzymatic method described below will not make one rich but it promises a great number of potential applications.

Gold is ejected out of earth's interior during volcanic eruptions with various metals, especially iron and sulfur. Mineralogists knew that metallic gold found in mines was somehow converted by bacteria and cyanobacteria from gold compounds, notably gold chloride. One such organism is *Delftia acidovorans*.

An article in the April 14, 2013 issue of the journal *Nature Chemical Biology* reported involvement of a peptide synthetase gene. Enzymatic products of this gene cluster endow the organism with the ability to withstand high concentrations of the toxic gold chloride. The scientists also isolated an octapeptide called delftibactin from D. acidovorans and showed that it converted toxic gold chloride into metallic gold as Au-NP in just 10 minutes! The currently used gold extraction method employs toxic chemicals. What makes this discovery important is not the production of gold but a potential environmental friendly and easier gold extraction procedure.

The use of gold as a precious metal stems from the fact that it remains unchanged over the years because it is inert to most chemical reactions. With the introduction of an improved refining method, the first gold coin was minted almost 2600 years ago by a king of Lydia, a place in modern day Turkey. Today, almost 50% of gold is used in jewelry, 40% in money, and the remaining 10% in technology. Of the 450 tons of gold used in technology, 320 tons are used in electronics and the rest in industry and dentistry.

In the past several years this apparently inert gold has been rapidly finding important applications in chemistry and medicine, and holds great potentials in microelectronics and optics, including computers. A form of gold is called gold nanoparticle or Au-NP. A short-lived glasswork technology in the 4th century AD used Au-NP in producing a red-green dichroic effect in the now famous Lycurgus cup. The cup appears green in reflected light but red in transmitted light.

Au-NPs are 10-100 nanometers across. A nanometer is one millionth of a millimeter (one billionth of a meter). AuNP are great catalysts for innumerable chemical reactions, notably conversion of carbon monoxide in automobile exhaust fumes into carbon dioxide.

Visible and infrared light are absorbed and/or reflected differently by Au-NP depending on their size. As a result, some Au-NP appear different in various coloured lights. Because of small size, Au-NP can easily penetrate blood brain barrier, and cellular layers. An Au-NP of a particular size or colour can be attached to a "molecular address" and a drug as well of, for example, a cancer tissue, in a patient. The address label drives the complex to the cancerous tissue that can then be visualised by the specific colour of the NP. At the same time, the drug can be released or heat produced by shining it with infrared laser beam to kill the cancer cells. IR has no health effect on the human body.

Although China is the top gold and gold jewelry producer of the world, the richest source of the metal is in the vast ocean water as low concentration gold chloride. Hopefully, scientists will try to find an application of the enzymes and bacteria in making Au-NP or gold from low concentrations of gold chloride.

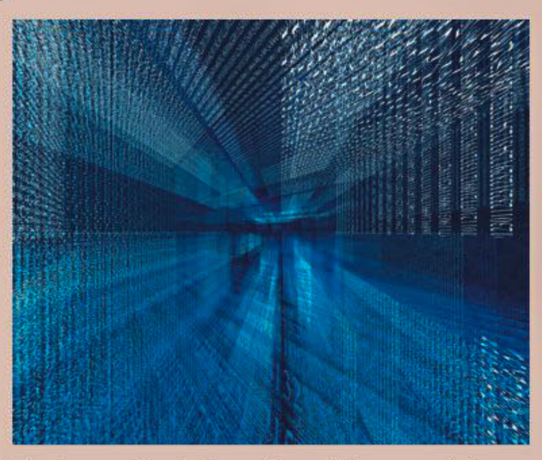
The writer, a former teacher at Dhaka University, is a biomedical scientist working in the USA.

NUMBER SENSE

Is 'Numerosity' the sixth sense?

WHETHER it's determining the number of ships on the horizon or the number of cookies in a jar, the human brain has a "map" for perceiving numbers, new research shows.

Topographical maps of the human brain are known to exist for the primary senses, such as sight, hearing and touch, but this is the first time such a map has been found for numerosity, or number sense. The map's layout allows for the most efficient communication among neurons doing similar tasks.



The human brain has a "map" for perceiving numbers, large and small, new research shows.

Studies in monkeys have shown that certain neurons in the parietal cortex, located at the back of the brain beneath the crown of the hair, became active when the animals viewed a specific number of items. These studies did not find a map for numerosity, though scientists have long suspected one exists.

"Scientists have suspected an ordered mapping of numbers for a long time," said Andreas Nieder, a neurobiologist at the University of Tübingen in Germany, who was not involved in the study. "Many laboratories have been investigating this idea intensively. Finally, Harvey et al. succeeded in convincingly demonstrating a map of numerical quantity in the human brain," he added, referring to researcher Ben Harvey, a neuroscientist at Utrecht University in the Netherlands.

Dots on the mind

In the study, Harvey and his colleagues placed participants in a magnetic resonance imaging (MRI) scanner and showed them patterns of dots that varied in number over time. They would show one dot over and over, then two dots over and over, then three dots, and so on.

The researchers used an advanced imaging method known as high-field fMRI, which allowed them to see fine-scale details of brain activity. They analysed the neural responses using techniques similar to those used to study the parts of the brain responsible for vision.

The posterior parietal cortex, responded to the dot patterns in an organised way: Small numbers of dots were represented in one area, whereas large numbers were represented in another, the results showed.

Source: **Live Science.**

CROSSWORD

By THOMAS JOSEPH

ACROSS

1 Jazz style
5 Baseball card data
10 Singer Cruz
12 Squalid home
13 Hollywood's elite
14 Burning
15 Pay stub line
16 Drafting aid
18 Steakhouse choices
20 Kid's spinner
21 Price to play
23 Hosp. sections
24 Make one's way
26 Historic seamstress
28 Take the title
29 Uttered
31 Colony member
32 Immune system components
36 Souvenir shop stack
39 "Life of Pi" director
40 Steer clear of
41 No longer a minor
43 Derby winner's prize
44 Wanderer
45 Work byproduct
46 Guys' dates

DOWN

1 Meager
2 Star
3 O'Connor's successor
4 Frank McCourt book
5 NBA great, for short
6 Soy paste
7 Flies
8 Real brats
9 Sacks out
11 Sits in on
17 Speedy plane
19 Palindromic nickname
22 Vinland discoverer
24 Painter Homer
25 Gush
27 Pindar poem
28 Spa attraction
30 Court worker: Abbr.
33 Andean carrier
34 Sanctioned
35 Likely winners
37 Creative germ
38 Take it easy
42 Sailing hazard

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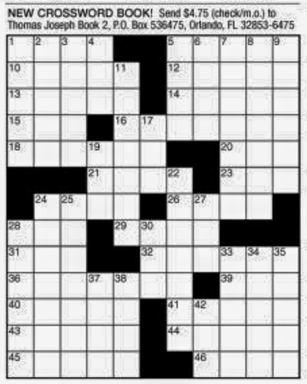
Yesterday's answer

NEW CROSSWORD BOOK! Send $4.75 (check/m.o.) to Thomas Joseph Book 2, P.O. Box 536475, Orlando, FL 32853-6475



AXYDLBAAXR
is LONGFELLOW

One letter stands for another. In this sample, A is used for the three L's, X for the two O's, etc. Single letters, apostrophes, the length and information of the words are all hints. Each day the code letters are different.

CRYPTOQUOTE

CBEU DT SWXA CDOU Y NDCM PBTU, HUYWGDKWC YIM XYCS, HWG NDCCDIR GB MPYN HCBBM DI DGT MUKUITU. — SYPO BEUPHV

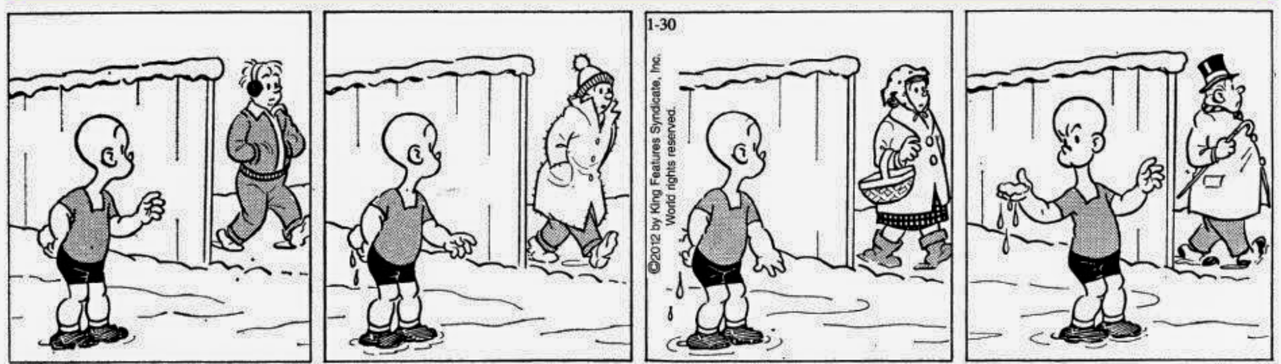
Yesterday's Cryptoquote:

NO MEMBER OF A CREW IS PRAISED FOR THE RUGGED INDIVIDUALITY OF HIS ROWING.

- RALPH WALDO EMERSON

BEETLE BAILY by Mort Walker

HENRY by Don Tranchte



QUOTABLE *Quotes*

"Vote for the man who promises least; he'll be the least disappointing."

Bernard M. Baruch